

THE Portable Paper

Connecting Your HP110 or Plus -- to an Apple Macintosh -- to an HP48SX Calculator

New HP Portable Products for 1990 and 1991

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ROMBO!

**Portable Plus users:
Now you can easily put programs
and data on ROM yourself!**

**— up to 1.5 megabytes
per ROM drawer!**

No more lugging a disk drive wherever you go! No more taking up precious Edisk space with frequently used programs and data! Now you can easily put almost any program - and important data - on ROM chips and store them in your Portable Plus's ROM drawer.

Once you've done so, your programs and data are available instantly, with no danger of loss and no need for an external disk drive.

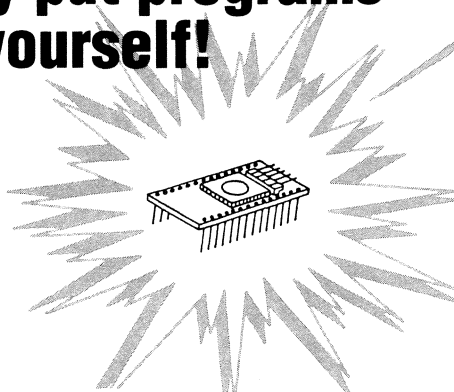
"Burning" your own ROMs is easy - even for a computer novice - with our Portable Plus ROM Burner. All you do is connect the ROM Burner to your Plus, and follow the simple instructions we provide for using the software that comes with the unit. (We even show you how to have your ROM programs automatically show up on your PAM menu!)

ERASABLE!

If you make a mistake while burning in a ROM - or if you later wish to change the contents of your ROMs - no problem. Just use the ultraviolet eraser that comes with our ROM Burner and start over. (Our programmable ROMs are technically "EPROMs", which stands for "erasable programmable read-only memory.")

UP TO 3 MEGABYTES ON ROM!

The ROM drawer that fits into the bottom of your Portable Plus has sockets for 12 ROMs. Each socket can hold a 128 Kbyte ROM. Even though there are more than 50 programs now available on ROM for the Portable Plus, most people only use 2-6 of the 12 sockets - which means part of the 1.5 megabytes of each drawer's available ROM capacity is going to waste.



ONE YEAR GUARANTEE • 60-DAY TRIAL
See order form for details

Our Portable Plus ROM Burner lets you fill that unused ROM space with

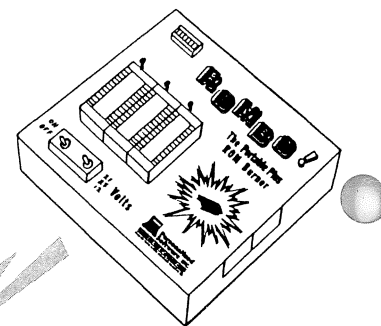
fixed data and with almost any Portable Plus program you wish - including programs that are not commercially available on ROM. This eliminates the need for an external drive and frees up valuable space on your electronic disk.

Regardless of your needs, we invite you to take advantage of this Portable Plus break-through. Put your programs and fixed data on ROM and experience the ultimate in portable computing convenience. Order our ROM Burner for the Portable Plus today.

HERE'S WHAT YOU GET

A must for every Portable Plus user, ROMBO: our ROM Burner package includes:

1. **Personalized Software ROM Burner for Portable Plus, with serial cable.** Burns commercially available 64 Kbyte ROMs or special "Personalized Software 128 Kbyte ROMs.
2. **Ultraviolet eraser.** Erases 64K or 128K ROMs for reburn. Lets you correct mistakes or change programs or data. Also useful for testing to make sure your newly burned ROMs work properly.
3. **All necessary software,** including: two compression programs that shrink COM and EXE files so you can fit more programs on ROM.
4. **Two Personalized Software 128 Kbyte EPROMs** (erasable programmable ROMs).
5. **Complete user manual.** Clear, step-by-step tutorial, written for novice and experienced users alike. How to burn ROMs, how to use accompanying software, how to get ROM programs to show up on your PAM screen. Also includes suggestions on what to put into ROM, how to avoid snags, and other tips based on our years of experience in supporting the Portable Plus.



PRICING

- **EP10NH Rombo: Personalized Software ROM Burner Package for the Portable Plus** (ROM Burner, serial cable, ultraviolet eraser, software, two 128 Kbyte EPROMs, user manual) Retail: \$695 Subscriber: \$595
- **Personalized Software 128 Kbyte erasable programmable ROMs (EPROMs) for the Portable Plus**
EP11NR Single EPROM Retail: \$69 Subscriber: \$59
EP12NX Set of 4 Retail: \$276 Subscriber: \$199
- **Personalized Software 128 Kbyte non-erasable programmable ROMs (PROMs) for the Portable Plus**
(Ideal for making multiple copies of ROMs)
EP18NR Single PROM Retail: \$64 Subscriber: \$54
EP19NX Set of 4 Retail: \$256 Subscriber: \$179
- **EP13NR 27C512, 12.5V, 64 Kbyte EPROM**
Retail: \$25 Subscriber: \$22
- **EP14NS ROM Burner software and manual only**
(Useful if you wish to burn your own 64 Kbyte EPROMs for the Portable Plus using a different ROM burner)
Retail: \$250 Subscriber: \$195
- **SW11UC Portable Plus ROM drawer**
Retail: \$195 Subscriber: \$99
- **EP15NE Custom ROM services**
EPROM (includes 10 minutes testing to make sure your ROM works in Portable Plus as specified)
Retail: \$150 Subscriber: \$135
- **EP16NE ROM consulting** (additional testing, batch file rewriting, etc.): \$75/hour
- **RENTAL** \$195 per month. Call for details.

BREAKTHROUGH IN PORTABLE PLUS ROM TECHNOLOGY

Our Portable Plus ROM Burner is a breakthrough for Portable Plus owners. It copies programs and data onto special 128 Kbyte programmable ROMs created exclusively for us.

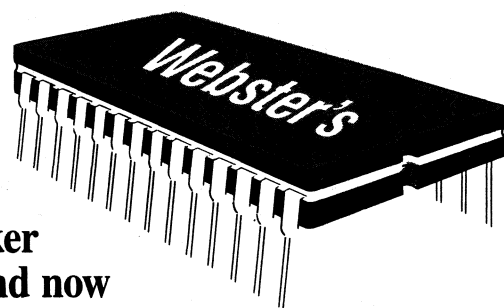
Aside from ours, the largest commercially available programmable ROMs that fit the sockets inside the Portable Plus ROM drawer are only 64 Kbytes. Our 128 Kbyte programmable ROMs give you double the storage capacity!

Moreover, unlike the procedures you have to go through with other ROM Burners, ours are easy. We supply all the software you need and a user manual that even a novice can follow with ease. Most importantly, ours is the only ROM Burner that lets you burn these ROMs directly from your Portable Plus.

We also offer custom burning of non-erasable ROMs. With volume discount, this can cost significantly less than the price of blank EPROMs.

Call for a quotation.

Portable Plus users: At last! A great spelling checker available on ROM!



Webster's (web'stərs) n. The spelling checker rated Editor's Choice by *PC Magazine* (Dec. 24, 1985), and now available from Personalized Software for the Portable Plus and HP150.

—Customized on 3½" disk by special arrangement with Simon & Schuster, Inc.

PC Magazine rated eight leading spelling checkers for ease of use, flexibility, speed, overall program size, thoroughness, and accuracy. WEBSTER'S NEW WORLD SPELLING CHECKER came out on top—for a number of good reasons:

First, there's sheer size. WEBSTER'S contains over 110,000 words in its dictionary—five times the number in Hayden's Speller, 2½ times as many as in The Word Plus—yet WEBSTER'S dictionary and main program take up only 207K of disk memory.

Second, WEBSTER'S isn't just easy to use—it's positively a *pleasure*. It reads your files at high speed, then displays every questionable word *in context*, highlighted. At the same time, in a "window" off to the side, it gives you a list of possible correct spellings. A simple menu gives you the following options:

- Accept the word as is
- Replace the word with one of the suggested spellings
- Enter the correct spelling manually

RECOMMENDED FOR:

HP110 Portable	Portable Vectra	•
Portable Plus	HP150	•
IBM PC and compatibles		•
Available on ROM Backup for the Portable Plus		

- Add the word to an auxiliary dictionary of frequently used words
- Replace all other occurrences of the word
- Look up the spelling of any other word at any time

WEBSTER'S also lets you mark in your text any spelling corrections that change length of a word; this lets you quickly locate portions of text that may need reformatting.

WEBSTER'S will automatically locate double repetitions (like "and and"). It can correct transpositions ("itme" becomes "item"), missing apostrophes ("dont" becomes "don't"), and *typos* of all kinds ("spelling" becomes "spelling," etc.).

If you're not sure of a word, you can even *spell it the way sounds*, and chances are WEBSTER'S will supply the correct spelling. ("Fenomenon" gets corrected to "phenomenon," for example.)

In addition, WEBSTER'S will let you preview a list of all questionable words *before* displaying them in context; this saves you time because it lets you eliminate words from the questionable list (or add them to your auxiliary dictionary) before you begin the editing pass.

John Dvorak, writing in the *San Francisco Examiner*, called WEBSTER'S "the

best spell-checker we've seen in a long spell." Henry Kisor of the *Chicago Sun Times* has called WEBSTER'S "the best proofreading software on the market." We agree with them both—and we think you will too. Order your copy at no risk today.

Webster's Spelling Checker on 3½" disk customized for the Portable Plus and HP150 \$79.95
\$69.95 for Portable Paper subscribers.

PRODUCT NO. WB11NS

Webster's is available on ROM backup for an additional \$179. See ROM ad in this issue for important details.



WEBSTER'S SPELLING CHECKER works with any file produced by the Editor, WordStar, and MemoMaker. It also works with ASCII files produced by MS Word and Word Perfect.

Our version of WEBSTER'S includes a customized 3.5" disk and simple instructions for running the program on the Portable Plus and HP150. A special utility allowing WEBSTER'S to run on the HP150 is included on the disk.

60-DAY MONEY BACK GUARANTEE

See order form for details.

TO ORDER

Use enclosed postage-paid order form or send check or credit card information (#, exp. date, signature) to:

Personalized Software

P.O. Box 869, Fairfield, IA 52556 515/472-6330

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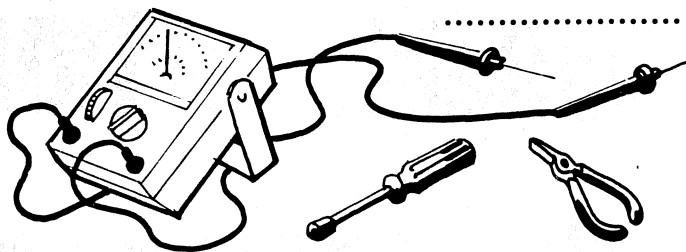
Price List/New Products from P.S. center

NEW!

Save money on repairs and upgrades

90-day guarantee on all repairs and upgrades.

Let our expert technicians fix your HP equipment — HP110, Portable Plus, ThinkJet, HP9114, HP150 computers and disk drives, and more!



HP Portable and HP150 users: If your equipment isn't working properly — or you've outgrown its capacity — don't throw it away!

Send it to us instead. We'll send it back running like a charm.

Repairs are as low as \$65. Most upgrades are \$250 or less. And we guarantee our work for a full 90 days.

To set up an appointment for a repair or upgrade, give us a call. Then send in your machine. We'll look at it for just \$25, then give you a firm price on parts and labor. If you decide to go ahead, the \$25 will be applied to the cost of our work.

Here are some typical charges:

- HP110 or Portable Plus screen replacement or upgrade: \$195
- HP110 or Portable Plus keyboard replacement: \$250

- HP110 or Portable Plus case replacement: \$175
- HP110 or Portable Plus internal modem replacement: \$195
- FastPlus upgrade (faster processor for Portable Plus): \$250
- 256K to 512K upgrade for Portable Plus: \$395
- 128K to 512K upgrade for Portable Plus: \$495
- HP9114 repair: \$65-135
- HP ThinkJet repair: \$65-135

Other repairs depend on our cost of parts and a \$42/hour labor charge. You can expect a range of \$75-\$250 for repairing most HP Portable and HP150 computers and peripherals.

To extend the life of your HP equipment, call our repair service today! (800) 373-6114. We guarantee you'll be pleased with the results!

Why pay \$500 or more for Lotus® 2.01 when you can have a fully compatible program for just \$79.95?

\$79.95 for disk version; \$195 for disk version plus ROM Backup (subscriber prices)

Until now, if you wanted the advantages and compatibility of Lotus 1-2-3, Version 2.01 for your Portable Plus, you had to pay \$625 retail for a ROM.

Now you can have a program that acts similar to Lotus 2.01 for just \$195 (disk and ROM) — or only \$79, if all you need is the disk version.

You can't get that much spreadsheet power for your Portable Plus for less!

The program is called As-Easy-As, because it's as easy as 1-2-3 (get it?), and it fully lives up to its name: As-Easy-As does almost everything Lotus 2.01

does (see list at right). It even does some things Lotus can't do, like matrix operations.

If you're new to spreadsheets, you'll find As-Easy-As to be powerful, yet easy to learn and use.

If you already use Lotus, you have nothing new to learn. As-Easy-As works in much the same way — and it reads and writes Lotus 2.01 WK1 files and Lotus 1A WKS files, so you don't have to change your data.

To gain the advantages of Lotus 2.01 at a fraction of the price, order As-Easy-As at our risk today.

	Retail Price	Subscriber Price
As-Easy-As on disk	\$99.95	\$79.95
	PRODUCT NO. AS11NS	
As-Easy-As ROM Backup (disk + ROM)	215.00	195.00
	PRODUCT NO. AS11NK	

Lotus 1-2-3 is a registered trademark of Lotus Development Corporation.

As-Easy-As does virtually everything Lotus 2.01 does — and more! Portable Plus version is available only from us.

EASY AS 1-2-3

As-Easy-As gives you almost all the features of Lotus 1-2-3, Version 2.01, including:

- Accommodates large worksheets (8,192 rows by 256 columns)
- Choice of Pull Down or Panel Menu Interface
- Choice of Functions including mathematical, statistical, logical, financial, string, date, time, and user-definable
- Powerful frequency distributions tables (Bins)
- Capable of linking current worksheet with information from other worksheets and disk
- Versatile, powerful graphics capabilities, including support for 9/24-pin and LaserJet printers, ability to create .PIC files, comprehensive chart-generation capabilities for bar, line, X-Y, pie, stacked bar, hi-lo, polar, area charts, and delta semi-log and log-log graphs
- X-Y data regression
- Database operations, data input forms, reads/writes dBASE files
- Text search, replace, justify
- Goal-seeking capabilities (give desired answer and As-Easy-As gives you the input)
- User-configurable printer setup file
- Worksheet auditing
- Named range, function, and macro selection lists
- Multiple planes (3-D simulation)
- Macro programming language, including over 70 powerful macros
- Macro record/playback capability and single-stepping through macros
- Full support of sub-directories and path names
- User-configurable screen options
- Able to shell to DOS.

MEMORY REQUIREMENTS

As-Easy-As requires 272K of Portable Plus main memory, plus 120K of electronic or floppy disk space (plus another 50K of disk space if you want to use the Help files).

PUBLISHER'S MESSAGE



Hal Goldstein

Hard to believe but we have now published *The Portable Paper* for half a decade! In my first Publisher's Message, January, 1986, I began:

"I'm excited. An idea, only a few months old, has taken form. Here is the first issue of *The Portable Paper*.

"In speaking with many of you, I am struck by your enthusiasm for your machine. Of course, we all know the value of being able to type a letter, work up some figures, and transfer that information back to the office while on the go. Still, I suspect that for most of us, our HP110 brings us the excitement and fascination of childhood as we play with this engrossing and multifaceted tool.

Our goal with *The Portable Paper* is not only to make you more productive using your HP Portable, but also by expanding your knowledge and experience, to help you enjoy your machine more."

When we started *The Portable Paper* in 1986, the HP110 and the recently-introduced Portable Plus were state-of-the-art machines. An HP110, ThinkJet and HP9114 disk drive cost \$4300. These portables with their origins in the HP calculator division featured many innovative features such as RAM and ROM storage, long battery life, display timeout, and incredible ruggedness.

After five years we are still supporting state-of-the-art machines, only they are no longer manufactured. The price of these (refurbished) units has dropped dramatically. However, both the usefulness of, and the fascination many of us hold for these machines have only increased in time.

Read News from Personalized Software. I think you'll be amazed to see what's in store for the HP Portables this next year. In this issue alone we introduce an Outliner, new AC Empowerers for both the HP9114 and the ThinkJet, and 4 new ROM packages.

We have not forgotten Vectra CS and LS/12 users. You'll find a description of a number of new products geared for the IBM compatible portable user. In particular note the availability of a 5.25 inch floppy drive for both Vectra CS and LS/12 users. We have also briefly described about a dozen upgrades to excellent IBM-compatible software products that we use in-house and recommend.

Next year we will continue to run Vectra Views intermittently as relevant material comes our way. We will also continue to tag articles according to which HP computer they apply to.

The theme that emerges in this issue is connectivity. In this issue you'll find thorough "how-to" descriptions for connecting and transferring files between your HP110 or Portable Plus and a Mac. Also a letter and the Looking Glass column describe connecting those same portables to the new, top-selling HP48SX calculator.

Finally, I could not properly end a year's worth of issues without giving thanks. Ed Keefe, Tom Page, and David Hughes not only serve as columnists, they help develop and test new software for the HP Portables. Thanks to their incredible diligence products like As-Easy-As, OutlinePlus, 1991 Subscribers Disks, other utilities, and hopefully soon the WorldPort Fax, come to market.

We have received many kind words from many of you. However, objectively, I think you will agree, what really makes *The Portable Paper* special and extraordinary is the quantity and quality of reader contribution in the publication. The information you send us fills the issue with the most valuable kind of information - the kind that comes from every day use. We actually receive so much good knowledge that sometimes it takes as long as six months to publish something after we receive it!

I am still just as excited as I was the first issue. Our goal remains

FOR HANDY REFERENCE: Items *directly* relevant to the three HP Portables are denoted in this issue as follows:

110 110 Portable P+ Portable Plus PV Portable Vectra LS/12 Vectra LS/12

When items are *partly* or *indirectly* relevant they are denoted as:

110 110 Portable P+ Portable Plus PV Portable Vectra LS/12 Vectra LS/12

THE PORTABLE PAPER Volume five/Number six November / December 1990

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The Portable Paper (ISSN-0886-9138) is published bimonthly by Personalized Software at 57 East Broadway Avenue, Fairfield, IA 52556. Subscription rates, one year: U.S. and U.S. possessions, \$55; Canada, Mexico add \$3 surface mail, \$6 air; other countries add \$6 surface mail, \$18 air. Please allow four to six weeks for receipt of first issue. Executive, Editorial, Circulation, and Advertising Offices: P.O. Box 869, Fairfield, IA 52556. Telephone: (515)472-6330, FAX: (515)472-1879. (c) Copyright 1990, Personalized Software, all rights reserved. No part of this publication may be reproduced without written permission. Reasonable efforts are made to provide accurate and useful information, but the reader must make his or her own investigations and decisions; the Publisher and Editorial Staff cannot assume any responsibility or liability for the use of information contained herein.

POSTMASTER: Please send address changes to Personalized Software, The Portable Paper, P.O. Box 869, Fairfield, IA 52556.

to increase both your productivity and fascination for these HP Portables. Like you, we look forward to learning more about the HP Portables with the 1991 issues.

Hal Goldstein

LETTERS

Likes Portable Plus; Problems with FormatPlus

We just received the "ROM Special" Portable Plus. I'll have to admit, I was like a child opening a Christmas present. Thank you very much. You have done over and far beyond what I was hoping for and I truly appreciate it. I know it will enhance our work in translation of the Bible, linguistic research, literacy and community development here among the Bolinao-speaking people of the Philippines.

The screen is a definite improvement over the 110 in size and in readability. Having FilePlus, the Editor II, Webster's and other software in ROM is tremendous. These all will make for a much more flexible machine.

I seem to have a problem with FormatPlus. I can print from the Editor II or DOS, but not from Format Plus. Once it did print part of a file. Any ideas?

Also, in Format Plus, when I use the Webster Spell Checker, I need to edit the document name each time by including the drive designator even though this file has been fetched by FormatPlus. Is this normal? Must something be corrected?

P+ I do believe you are doing a good work there. I am not the one to tell you what directions that Personalized Software should be taking in the future but I have greatly appreciated having someone to go to for support for the HP Portables. There are many other variables, not least of which are the economics which you must take into consideration, and so change is inevitable. In whatever direction you turn, whether continuing with your present support of the Portables or not, I'm sure you will provide continued good service.

Again, thank you for your gracious help and service.

Gary Persons
Summer Institute of Linguistics
PO Box 2270 CPO
1099 Manila, Philippines

[FormatPlus should print properly. Be sure to set destination to the printer, not screen. Due to the way Webster's works in ROM, you must type the drive designator -- Hal.]

Blown HP110 Battery Fuse

My HP 110 works fine as long as it is plugged into its AC adapter (HP 82059D), but as soon as it is unplugged the screen goes dead. When the computer is again

plugged into the adapter, the following message flashes on the screen:

WARNING: Memory lost! Hit F1 to re-format drive A: [etc].

110 The machine boots itself up when one hits F1. And if one unplugs it again, the cycle repeats.

P+ I suspected a battery problem, and replaced the Battery with a new one yesterday (item #BT12HC, HP-110, HP 1420-0329). The change was uneventful but the problem remained. Suspecting a partially charged replacement battery, I allowed the unit to recharge for about 6 hours -- still the problem remains.

I would appreciate your help in diagnosing and then repairing this HP-110 machine. (I am now running by business on my backup HP-110 which makes me very NERVOUS since I rely on my trusty HP-110s to make my living!)

Your PROMPT action would be STRONGLY appreciated! Thanks for your previous assistance, as well as for your help this time around! Please keep me advised.

I am a sales representative under contract to a North American Van Lines Agent in Houston. I do all my in-residence estimating on-the-spot using several complicated Lotus models of my own design. Great way to trim, juggle, adjust, and add or delete services in front of the customer before committing to a bid.

Incidentally, enclosed are a couple of Houston Canoe Club newsletters, which I produce monthly with the help of my HP-110, ThinkJet printer, using The Editor.

Tom Brucia
8807 Storm Wood
Houston, TX 77040

[Ron Chase, our equipment technician, diagnosed the problem as a blown battery fuse. The 110 will run off of the AC adapter when the battery fuse is blown, but even a fully charged battery provides no power the the system.]

Ron says that this is a common problem and suggests that all users take care not to allow the battery terminals to make contact with the exposed printed circuit board when removing the battery. Make sure the metal strap that connects to the battery is folded out of the way and be carefull not to touch the circuit board with a nut driver, torx wrench, or any metal tool.

Tom does a fine job putting together the Houston Canoe Club's newsletter on the 110 and a ThinkJet. I was fascinated by its nifty two-column format and wondered how he accomplished it. It turns out he does it the old fashion way, by printing it up in single, 3-inch columns and pasting them up. It's surprizing how nice a newsletter can still be produced using scissors and glue -- Rich.]

Using HP Duette; ThinkJet, 9114 Switch On During Travel

On behalf of the very few clutzes among your customers, I suggest a change in the documentation for HP Duette. I carried the cable and the program, along with my Portable Plus to India, hoping to use it there for interface with an IBM compatible, without having to lug and install my HP-IL connector board. Once there, I could not get it to boot on either the Plus or the IBM.

110 On the verge of telephoning you upon my return, I made a last attempt in my office and found the answer, which is to type HPD on the Portable and HPDI on the IBM. I had been using the command Duette on both all along, **as the printed instructions clearly say one should do.** There is nothing in the README file on the disk to ammend the printed instructions on this point.

P+ May I suggest that you add a line to README for HP Duette version 2.0 for those whose instincts are not sufficiently developed to lead them to the obvious.

Like Bob Margevicius, I had a problem with my ThinkJet (and 9114 Disk Drive) switching on during travel. Not so much with the latter since I got my Portable Plus with enough memory so that the disk drive gets left at home.

The solution I found is to remove the battery pack and reinsert it reversed. For the ThinkJet this works fine, the case I use keeps the pack in place easily and there is no possibility of damage. There is a potential problem with prongs on the connector on the 9114 which protrude into the battery space and could be bent by a chance blow against the battery when it is in reverse position. I used a bit of cloth to protect them, but a better idea is probably a small piece of wood slipped in to keep the battery case from touching the prongs. Of course, one or both of the batteries can be carried separately.

Curious fact: since I have been using this technique, neither apparatus has had its switch thrown during travel. Perhaps the protruding battery protects the switch.

Many thanks for all the help you have always given, and keep up the good work. My early renewal herewith. I look forward to getting the Subscribers Disk in January.

Curtis Farrar
1727 S. Street NW
Washington, DC 20009

HP48SX Calculator

HP has a new scientific calculator, the HP48SX, which is capable of two-way infrared communication with other HP48's and serial communication with PC-compatible computers. It's used by engineers students an surveyors. Data can be accumulated in the field and downloaded to a computer. The calculator has a 256K

ROM operating system, 32K built in RAM, and 2 expansion slots for 128K RAM or software cards.

I have connected the HP48SX to the Portable Plus using the serial interface kit provided by HP. I used the 1.5 meter cable together with the 9-pin to 25-pin adapter to connect to the Portable Plus Modem Cable which connects to the Portable Plus 9-pin serial port.

The PC end of the HP48SX with adapter implements the 1, 2, 3, and 7 pins as 1-Shield, 2-TxD, 3-RxD, and 7-GRND. Since the modem cable as described in the technical reference manual on page 2-18 has the same configuration (2-TxD, 3-RxD, 7-Grd, and Shell-1) it seems a perfect match.

I use the 33K Kermit available from Personalized Software since the 102K version provided in the interface kit does not work with the Portable Plus screen.

With cables connected, from the DOS prompt on the Portable Plus, I type **kermit** and press **Return**. At the **Kermit>** prompt I type the following, pressing **Return** at the end of each line:

set port 1
set parity even
set baud 9600
status

If status doesn't show baud 9600 I repeat the last two lines above.

Using the I/O SETUP menu on the HP48 I set IR/wire to **wire**, ASCII/binary to **ASCII**; baud to **9600**; parity to **EVEN**; checksum type to **1**; and translate code to **3**. (Code 3 maps dissimilar characters between machines).

I put the filename or directory that I want to transfer from the 48 to the Plus into line one of the HP 48 and press **enter**. I then type **receive** and press **Return** on the Portable Plus. Finally I press **SEND** on the I/O menu on the 48.

The Portable Plus displays the status of the transfer and beeps when complete. I type **quit** and press **Return** on the Portable Plus and the transfer is complete. The file is in the directory ready to be edited or saved on disk. On the HP48SX I key I/O, **NEXT**, and **CLOSE**. The wires can be disconnected. The file can be viewed in DOS by typing **MORE (filename)** and pressing **Return**.

I can archive the entire HP48 machine to the Portable Plus then save it to disk or print it on the ThinkJet. Directories can be transferred to the Portable Plus, deleted from the 48 then returned later.

I also have an HP28S from which I enter data and programs directly into the 48SX using the utility program provided on disk with the 48 serial interface kit which I downloaded through the Portable Plus to the 48SX. Perhaps the 103K Kermit can be adapted for use on the Portable Plus for direct interplay between keyboards. Could it be run from ROM to reduce memory consumption?

If a 9- to 9-pin gender changer were available with thumb screws, would that eliminate the need for a modem cable?

Don Elgetti

1009 N. Jackson St. #1901
Milwaukee, WI 53202

[See Through The Looking Glass, by Ed Keefe, for more information on the HP 48SX. There is a newer Portable Plus version of Kermit to be supplied on the 1991 Subscribers Disk. It should be able to be put on ROM using our ROMBO product - Hal.]

Copying Software to ROMBO EPROMS

So far I've bought two Portable Plus's, a DeskJet printer, and lots of other accessories and software from your company. You've got great deals, and more importantly, great service. Your people have been very helpful whenever I've had any questions about the HP equipment I've bought; much better than any help I've received from HP themselves!

I now have two Portable Plus's (one for me and one for my 16-year-old high school junior). I also have a 14-year-old who is presently using another computer, but the Plus's are so superior, I'm thinking about getting a third one from you. I just received your latest catalogue and I'm looking for a good package deal. The packages on page 3 aren't quite what I want, so I thought I'd tell you what I'm looking for and perhaps you can quote me a package Price....

I now use Lotus 1A and MS Word 1.1 on ROM in both machines. Can I copy those ROMs onto new EPROMs for the new machine?

Ray Kawal

783 A Happy Valley Road
Sequim, WA 98382

[We thank you for the kind words. We can sometimes be flexible on substitutions on our Portable Plus specials, depending on the product you order. Readers should just give us a call.

ROMBO provides the capability of copying the files from one ROM to another. However, and we say this most sincerely, readers should honor the license agreement that comes with any software package. Copying ROMs for second machines is like copying software to a second machine. You must purchase one copy of the software or ROM per machine.

If you have any of the software we manufacture and distribute (i.e. The Editor, OutlinePlus, FilePlus, etc.) you may use ROMBO to put the product on ROM. However, you must purchase one copy of the software per machine used.

Our survival depends on customers honoring our license agreement, especially since we sell such a small volume of each product offered. Similarly, other

software companies depend on the consumer's understanding and integrity for their continued innovation and success - Hal.]

Printing Files to Different Printers Without Moving Cables

A few months ago I asked if there was any way to feed two separate printers without having to move cables. You suggested using a serial-to-HPIL converter (\$179).

I received two letters from fellow readers suggesting that it could be done by saving files to be printed in ASCII format, going to DOS and directing the output to LPT1 and LPT2. Nils Andersson from Sweden suggested using the DOS COPY command. This suggestion lead me to try the "COPY" feature in PAM and the File Manager section. It works just great.

I ran both a Lotus 123 and a Memo-maker file this way.

After saving both as ASCII files I go to the FileManager from PAM and use **copy from (filename) to LPT1 (or LPT2)** as desired.

Thanks for the listing of names and addresses, since it allows readers to communicate. Keep up the good work.

Thomas F. Moore

P.O. Box 22033

St. Louis, MO 63126

[Readers, please send Personalized Software a copy of your relevant replies to others so everyone can benefit. Thanks - Hal.]

Plus Helps Get Ideas Down Fast!

Just a little note to let you know how much I am enjoying my Portable Plus. I'm no expert yet, of course, but I have thoroughly enjoyed my learning process so far and am looking forward to word processing my next game on it very soon, and would also like to write some science fiction and mystery stories. It's a lot easier to get an idea down on the computer than it is to laboriously write it by hand. I've lost a lot of good material by not being able to get the ideas on paper as fast as they came into my head.

In fact, it was my "Late Night at Personalized Software" story about Big Hal et al published in the last Portable Paper, that finally tipped the scales into my decision to buy the Plus. That story only took about 10 minutes to write, and I didn't lose any of the ideas in getting it down.

There can be no greater thrill than that of being able to accomplish, with relative ease and gusto, that which one originally thought to be difficult and

(Letters continued on page 42.)

110%

Making More of Your HP Portable

by Hal Goldstein

Connecting the Apple Macintosh to the Portable Plus and HP 110

By Byron Rigby

The two easiest computers to use must be the HP Portable and the Macintosh. Many readers of *The Portable Paper* will have both: a Mac for desktop, and an HP110 or Portable Plus for travel.

I have used this combination for years, and it is still, to my mind, the best. (Until last month I used an HP110, now I use a Portable Plus.) Using the Portable Plus is even better than using the Mac Portable, which is still too heavy to be practical. By using the Mac as the desktop computer, I can simply transfer files from Portable to Mac after every trip. Now, with the Portable Plus and its super-large E-disk, I can travel for weeks and never need to carry an HP disk drive.

The trick, of course, is to have an easy upload system for transfer from Portable to Mac. If this is available, then the storage, formatting and laser printing of documents can all be done on the Mac. There is scarcely any need for the slow HP disk drive or the ThinkJet.

The system I use is as follows.

STEP 1 -- CONFIGURING THE HP-110

- Load Terminal Emulation Program -- TERMINAL.COM is located in B:bin (34,303 bytes). From PAM, start the Terminal Program.
- Create Terminal Configuration File -- TERMINAL.COM prompts you to enter the configuration file name. Press **return** and then **f5** and the Terminal Configuration screen below is displayed. Set the following parameters:

Terminal Configuration			
Comment:			
Logon String:			
Phone Number:		Device:	Serial
Handshake	None:	Parity:	Even
		Baud Rate:	1200
Xmit Pacing:	None	Recv Pacing:	None
		Data Bits:	7
EOL sequence:	CR	Parity Check:	On
		Echo:	Off

To save the modifications that have been made, save the configuration by pressing **f1**. Enter the file name MAC.CNF and press **return**.

- Create Upload Configuration File -- press **f3** (Upload Config) from the main TERMINAL.COM menu. Set the following parameters:

File Upload Configuration	
From Local File:	
To Remote File:	
File Type:	7-bit Text
Remote Invocation:	Command Options:
Protocols:	Off

To save the modifications that have been made, save the configuration by pressing **f1**. Enter the file name MACU.CNF and press **return**.

- Create Download Configuration File -- Press **f4** from the main TERMINAL.COM menu. Set the following parameters:

File Download Configuration	
From Local File:	
To Remote File:	
File Type:	7-bit Text
Remote Invocation:	Command Options:
Protocols:	Off
	Overwrite Permission: On

To save the modifications that have been made, save the configuration by pressing **f1**. Enter the file name MACD.CNF and press **return**.

- Create Batch File To Invoke Configuration Files -- Once the above configuration files have been made and saved from within Terminal, a batch file can be made for invoking them at a single keystroke.

The following batch file can be made on a text editor like The Editor or Memomaker, or you can use Edlin or the Copy Con command from DOS. Call this one-line batch file M.BAT.

```
terminal /t mac.cnf /u macu.cnf /d macd.cnf
```

Now you can turn on the terminal in a configuration suitable for the Mac (as set up below) simply by typing **M** from PAM or the DOS prompt and hitting **return**. You will find that when "Terminal" comes up, there will be nothing on the Portable's screen except the high-lighted word **connected** in the lower left. Don't panic: hit the **User System** key just to the left of **f5**, and the softkey menu will appear at the bottom of the screen.

Now all you have to do to send a file is strike **f3** (Upload config), type the **filename** you want to send from the HP110 to the Mac, press **f8** to return to the main menu, and hit **f2** (To Host). The file will transfer, appearing on both the 110 screen and the Mac screen.

New software breakthrough!

50% more file space for as little as \$89.95!

- **Easy to use**—if you can save a file, you already know how to use **SQUISH PLUS**!
- **A must for every HP Portable owner**—ROM Backup version especially valuable if you use a **Portable Plus**! (Sorry, **SQUISH PLUS** doesn't run on the HP110.)

It isn't often we find a program that's a must for every portable user, but Squish Plus is just such a program.

Squish Plus lets you increase your disk storage space by 50% or more for as little as \$89.95—without having to install any hardware or learn any new commands.

Squish Plus compresses files, saving them much more efficiently than DOS. For example, a word processing file of 50K might only take 30K using Squish Plus.

COULDN'T BE EASIER!

To use Squish Plus, you simply add a new drive letter to your system (for example, e:). If you wish, the new "drive" can be password protected.

Then, whenever you save files to the new "drive," Squish Plus compresses them automatically. When you retrieve a compressed file, Squish Plus automatically expands it to its normal size.

The saving in disk space is enormous: Squish Plus compresses data files (spreadsheets, text documents, databases) by 30-70%, and compresses program files by 5-25%. On the average, *you will increase the amount of data you can store on a disk by 50% or more!*

Note: All your other software can use the compressed data *as is*. There are no new commands to learn. You set up directories and perform all file operations—save, retrieve, copy, rename, backup, etc.—the same way you always do. (File backup takes up fewer disks, of course, and is significantly faster.) You can even use the Norton Utilities "Undelete" program to re-

cover compressed files that have been deleted!

Initial set up is easy too. There is no need to reformat or repartition your present disk. All you do is install Squish Plus as a "device driver." (You don't even have to know what that means. The manual—one of the best we've seen—walks you through the procedure in 5 minutes.)

ANY DRAWBACKS?

Other file compression programs impose a speed penalty. But Squish Plus is so efficient *there's virtually no loss of speed*—especially on the Portable Plus—except perhaps for a slight additional wait with some of your program files and largest data files.

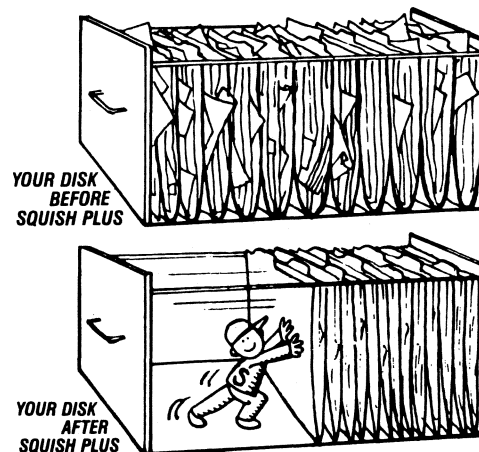
Other file compression programs also set aside a significant amount of internal memory space for file decompression. But Squish Plus uses only 36K of memory for everything.

(Portable Plus users may need to increase internal [main] memory by as much as 36K. On the Portable Vectra and LS/12 Laptop, Squish Plus simply borrows 36K from the 640K of memory that's built in.)

WHAT ABOUT DISK SPACE FOR THE PROGRAM ITSELF?

The files on the Squish Plus disk total 139K, including several Squish Plus utilities.

Portable Plus users can get by with just 54K by eliminating all but two essential Squish Plus program files. (You can even reduce your Edisk space requirement to zero if you're willing to disable PAM and load Squish Plus from an HP9114 each



SQUISH PLUS "compresses" your files so they take up less disk space!

time you reboot).

A better alternative—and the one we recommend—is to purchase Squish Plus on ROM Backup (see box below).

Whatever computer you use, *there is no other way to expand your file storage space that is as easy or economical as Squish Plus*. Order your copy at no risk today.

	Retail Price	Subscriber Price
Squish Plus for IBM PC compatibles	\$99.95	\$89.95
	PRODUCT NO. SQ12NS	
Squish Plus for Portable Plus	\$129.00	\$99.95
	PRODUCT NO. SQ11NS	
Rom Backup Package (includes Squish Plus for Portable Plus on disk and two 64K Backup ROMs)	\$264.00	\$234.95
	PRODUCT NO. SQ11NK	
Squish ROMs (Must own Squish Plus for Portable Plus for each ROM set purchased)	\$135.00	\$135.00
	PRODUCT NO. SQ12NS	

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Personalized Software

P.O. Box 869, Fairfield, IA 52556 515/472-6330

IMPORTANT MESSAGE FOR PORTABLE PLUS USERS

Special Portable Plus version

The authors of Squish Plus have worked with Personalized Software to create a customized version that runs on the Portable Plus. *This version is available only from us*. Be sure you specify "PORTABLE PLUS VERSION" when you order.

Buy Squish Plus on ROM!

With disk space at a premium in the Portable Plus, the best way to buy Squish Plus is on ROM Backup.

Our exclusive ROM Backup package includes the Squish Plus disk, and two ROMs—128K total—that contain all the Squish Plus files (except for one that you'll never need).

With Squish Plus on ROM, all the useful Squish Plus utilities will always be available, and you won't have to give up any disk space at all.

CALL NOW!

515-472-6330

But before any of this can happen, you have to complete the next two steps.

ALTERNATE STEP 1A – CONFIGURING THE PORTABLE PLUS USING TERM

Term, the Plus's built-in terminal program, can also be used to upload to the Mac using the MockTerminal desk accessory as the Mac's terminal software. Follow these instructions:

1. Prepare the Mac for receiving or sending as described below in ALTERNATE STEP 1B. Select **1200 baud** and **Full duplex**.
2. On the PAM menu, press **f5** (Datacom Config), and select **1200 baud** (necessary because the Plus default is 9600 baud and this cannot be matched on MockTerminal in the Mac). This has only to be done once, and the Portable Plus will transmit and receive at this rate unless told otherwise.
- 110 P+ 3. Return to PAM or the DOS prompt and type **term**. This loads the Term program.
4. Press **f3** (File Names) to name the file to be sent or received. Use the **tab** or **return** key to move the cursor to the desired file.
5. Press **f4** (Remote Mode*), **f5** (Auto LF), or **f6** (Local Echo*) as needed.
6. Press **f1** (From Host) to send a file or **f2** (To Host) to receive a file.
7. Don't forget to QUIT from Term. Otherwise it stays on and your battery may run down.

In all cases, matching the switches on the Smart Cable, and making sure you do have the right cables, is vital (one way to get a right cable is just to try out many).

ALTERNATE STEP 1B – CONFIGURING THE PORTABLE PLUS USING TERMPUS

TermPlus is the Portable Plus communications software available from Personalized Software. Proceed as follows:

1. Open MockTerminal in the Mac by clicking on MockTerminal desk accessory in the apple menu.
2. Go to the Terminal menu, select **1200 baud** and **Full Duplex**.
3. Again go to the Terminal menu. If you want to upload to the Mac, select **Start Recording**. Choose a name to call the Mac file that will be created by uploading from the Plus. The Mac is ready to receive.
If you want to download from the Mac, first select **Playback**. Then select a Mac file to download to the Plus (don't press OK until the Portable is ready to receive).
4. From the Portable Plus type **TP**. The Termplus software is immediately loaded.
5. Press **f1** (Dial Menu).
6. Press **f5** (Datacomm Config).
7. Press **f1** (Serial Port), **f2** (1200 bauds), **f3** (Local Echo ON) and, if needed, **f5** (Need or Generate Linefeed). Then press **f8** (Main Menu) to return to the main menu. These configurations will remain as the default in future uses of the program.
8. Press **f5** (Upload To) if sending to the Mac, or **f6** (Download From) if receiving from the Mac. A dark line appears at the top of the screen, in which you name the file to be sent, or the new file to be received.

9. Press **Return** and you should be in the file transfer menu.
10. Press **f1** (ASCII Transfer). The file will be sent, or received. If received, wait until all data has been received, then press **f6** (End Download) which will remain flashing as long as the Plus is set to receive.
11. If the file is being uploaded to the Mac, it will be necessary to point to the Terminal menu on the Mac and select **Stop Recording**.
12. Don't forget to QUIT TermPlus: remember that the Plus will not turn itself off while in a Terminal program. This means that it may exhaust its battery.

STEP 2 – CONNECT THE CABLES

I use a combination of RS232 cables and a device called a Smart Cable, made by IQ Technologies:

- Connect the HP110 to the Smart Cable box with an HP DTE to DTE printer cable for the 110 (Part # 92221P C4484E).
- Connect the Smart Cable box to the Mac with a Data Spec (TM) Low Voltage Computer Cable.

The Smart Cable is a small black box (pocket size, 3" X 3" X 3/4") with a number of switches that will match any two RS232 cables and effectively rearrange the pin configurations. I have found that it doesn't work with all possible cables (in fact the Mac Imagewriter printer cable won't work) but it can match most. *[IQ Technologies sent us the Smart Cable MC600, which comes with a 10-foot Mac-compatible cable. We haven't tested it, but Smart Cable User Manual says it connects directly to the Mac's 8-pin mini-DIN serial connector. This would eliminate the need for the Data Spec – Rich.]*

The Smart Cable MC600 is available through Smart Cable IQ Technologies, 11811 NW First St, Bellevue, Washington 98005. Phone: (206) 485-8949.

PORT-MAC CABLE – Personalized Software has developed the Port-Mac Cable to connect the Portable RS232 port directly to the Mac port. Subscriber price for the cable is \$59.95. See the center spread Price List and New Products from Personalized Software.

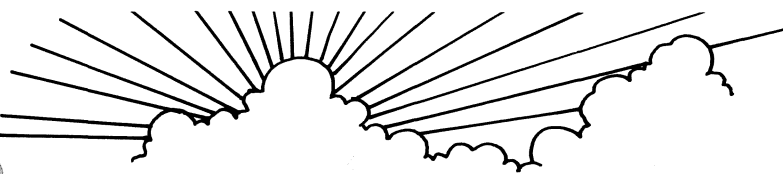
STEP 3 – CONFIGURING THE MACINTOSH

- Terminal Emulator for the MacIntosh -- The easiest Terminal program to use is MockTerminal. This is a rudimentary program that operates as a Desk Accessory from the Apple Menu on the Mac. Select **MockTerminal** from the Apple Menu and then open the Terminal menu. Choose the Baud rate (select **1200**) and **Full Duplex**. Then ready the Mac to receive by selecting **Start Recording** and type in a file name. When you end receiving, don't forget to go back to Terminal menu and select **Stop Recording**.

Naturally, you can select 2400 baud transfer rate if you want, but you have to change the Portable configuration also. Strangely, this makes little or no difference to file transfer rate.

The advantage of this primitive Terminal Program for the Mac is that it can be opened and used within any other program, and uses a very small amount of memory.

For faster transfer of larger files, a more elaborate MacIntosh Terminal program such as MacTerminal or



The Editor II It's way beyond MemoMaker!

You won't believe all the word-processing features this \$129* program contains—and it takes up less than 40K of memory!

* (only \$99.95 for Portable Paper subscribers)

By Hal Goldstein

Let's face it: MemoMaker is an adequate word-processor, but it has its limits. No search and replace. No simple way to merge files. No destructive backspace key. (To delete the last character you have to use the left arrow key and the deletion key [s].) No compressed or expanded printing. No...—but why go on? If you use MemoMaker, you probably have your own list of things you wish it could do.

Well we have good news! Now there's an easy-to-use text editor that runs on the Portable and Portable Plus that will satisfy almost every item on your wish list. And the program comes with a built-in bonus: It also runs on the HP 150, IBM PC, and HP Vectra, which means that **now you can use the same program and files on your desktop that you use on your Portable.**

The program is called THE EDITOR II. It does everything MemoMaker does plus a heck of a lot more. And you don't have to go to the expense of buying WordStar (for the Portable) or MS Word (for the Plus) to go beyond MemoMaker's capabilities.

THE EDITOR II's most valuable features are listed on the chart to the right. It's quite a list, isn't it? To me, THE EDITOR II is a real blessing. I use it daily instead of MemoMaker, and I've silently given thanks to its author, Ed Gilbert, many, many times. Just a few minutes with THE EDITOR II (that's all it takes to be up and running) and I think you'll be a fan of his too.

In addition to the great features listed to the right, there are six more I especially want to emphasize:

1. THE EDITOR II's Lotus-like menus make it incredibly easy to use.
2. THE EDITOR II creates ASCII files, which means you can send your files to and from almost any other program or computer without special formats or codes.
3. THE EDITOR II will automatically back up your files to protect you against mistakes: When you save a file, THE EDITOR II saves not just the current version, but the previous one as well.

NEW VERSION!
Now has line and block centering, powerful macros, and new printed tutorial!
Easy to upgrade from Version I.

4. THE EDITOR II takes up less than 40K of memory.
5. THE EDITOR II loads and saves files and executes commands exceptionally fast.
6. THE EDITOR II comes with a well-written reference manual and a step-by-step tutorial.

Even in the desktop market, **it is difficult to find a word processor with this many useful features at this low a price.** For the Portables, THE EDITOR II simply can't be beat. See for yourself: Order your copy, risk-free, today.

THE EDITOR II on disk \$99.95
Portable Paper subscriber price . . \$79.95
PRODUCT NO. EDI1NS

ROM BACKUP version \$194.95
(THE EDITOR II on ROM and disks)
PRODUCT NO. EDI2PP

For users of Version I or SuperROM:
EDITOR II Upgrade Kit on disk . . . \$35.00
PRODUCT NO. EDI4NS

Upgrade Kit on ROM and disk . . . \$58.00
PRODUCT NO. EDI5NR

RECOMMENDED FOR:	
HP110 Portable	●
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Portable Vectra	●
HP150	●
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Available on ROM Backup for the Portable Plus	

PV PV users: Be sure to indicate "PORTABLE VECTRA" on your order so we can send you proper disk format.

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Personalized Software
P.O. Box 869, Fairfield, IA 52556 315 472-6330

Special combined offer— SAVE \$30:

THE EDITOR and THE FORMATTER together—
Only \$119.95 total (Portable Paper subscribers only)

Note: The user manual itself is a challenge, and no technical support is available. We therefore recommend THE FORMATTER for strong computer users or those already familiar with text formatters.

If you need any of the features listed above, and if you're willing to spend the time it takes to learn the commands, THE FORMATTER is for you. Order your copy, risk-free today.

THE FORMATTER \$59.95
Portable Paper Subscriber price \$49.95

THE EDITOR II gives you all these great text-editing features and more:

- **Search and replace.**
Just tell THE EDITOR II what word or phrase to look for, and it will display each occurrence and/or replace the occurrences either selectively or globally.
 - **Edit two files at once.**
THE EDITOR II will display two separate portions of text at the same time, one above the other. You can view and edit two parts of the same file—or even two different files—simultaneously.
 - **Backspace delete.**
You can erase the last character with a single keystroke.
 - **Block and line centering.**
THE EDITOR II lets you center blocks and lines of text with a few simple keystrokes.
 - **Powerful macros.**
Store any sequence of keystrokes and play it back at the touch of a single key. Macros can be edited, deleted, stored in files—even autoloading on startup. THE EDITOR II comes with over two dozen macros to get you started.
 - **No limit on file size.**
If you're an HP110 Portable user, you're no longer confined by MemoMaker's 819-line limit. You can have as large a file as internal memory allows.
 - **File merge.**
You can merge two or more files together with ease.
 - **Compressed and expanded.**
You can imbed control characters in your text to tell your printer to print all or part of your text compressed, expanded, bold, underlined, or whatever else your printer can handle.
 - **Unlimited line length.**
Your files are no longer limited to 80 characters per line. This means, for example, you can print 132-character lines on your ThinkJet in compressed mode.
 - **Lines per page.**
You can specify the number of lines per page, using the control codes required by your printer.
 - **Easy in, easy out.**
You can exit from THE EDITOR II, run another program, then type a one-word command and be back in THE EDITOR II exactly where you left off. This includes exiting DOS—which means you can delete, copy, and rename files while running THE EDITOR II.
 - **Right justification and automatic paragraph indent.**
A simple command right-justifies your text and automatically indents your paragraphs however many spaces you wish.
 - **Undelete.**
A simple command will undelete the last line or block of text deleted.
 - **Upper/lower case conversion.**
Another simple command lets you change between upper case and lower case without having to retype anything.
- In terms of useful features per dollar, THE EDITOR II is a truly exceptional buy. I urge you to try it. Order yours today.

Hal Goldstein

The Formatter

THE FORMATTER gives you advanced formatting capabilities that even THE EDITOR II can't handle—like: multi-line headers and footers • automatic hyphenation (you can even add your own words to the built-in dictionary) • user-specified page length and line length • automatic page numbering • tables and charts • table of contents generation • and more.

THE FORMATTER works by imbedding special formatting codes into your EDITOR II, MemoMaker, or other ASCII text files. You can customize THE FORMATTER for almost any printer.

Red Ryder may be preferable. The 110 can send files at up to 19,200 Baud.

STEP 4 -- STRIP FILE BEFORE SENDING

One additional step that can assist in file transfer is to strip Carriage Returns, double Carriage Returns, double spaces, and linefeeds before transferring your files. There are stripping programs for the Mac, but I prefer the Portable, using the Editor and either of the following Macros:

- **Macro 1 for stripping** (activated by pressing Control X):

```
<BEGDEF><CtrlX><ESC>dp1,2000<ENTER><ExtHOME><ESC>dm
<ExtEND><ESC>bf<ExtHOME><ESC>r[space][space]<ENTER>[space]
<ENTER><ENTER><ExtHOME><ESC>r<CtrlM><CtrlJ><CtrlM><CtrlJ>
<ENTER><CtrlM><CtrlJ><ENTER>a<ENDDF>
```

- **Macro 2 for stripping** (activated by pressing Control M. It's much slower):

```
<BEGDEF><CtrlM><ExtHOME><ESC>r[space][space]<ENTER>[space]
<ENTER><ENTER><ExtHOME><ESC>r<CtrlM><CtrlJ><CtrlM><CtrlJ>
<ENTER>$$<ENTER>a<ExtEND><ExtHOME><ESC>r<CtrlM><CtrlJ>
<ENTER>[space]<ENTER>A<ExtHOME><ESC>R$<ENTER><CtrlM>
<CtrlJ><ENTER>A<ENDDF>
```

These Macros should contain no carriage returns. Create spaces, indicated as [space] with the space bar.

If it is desired to strip a file by hand, i.e. without using a stripping macro, then you can simply read off the instructions of the macro and key them into the Editor. Essentially what is done is to use the Search and Replace option to eliminate double spaces and carriage returns. To restore your file to readable form on the Portable, use the FILL command in the Editor.

Stripping can also be done on the Macintosh by using Microsoft Word, which allows stripping of carriage returns, double spaces and tabs using a Search and Replace option. Spaces can be represented on Search and Replace by striking the space bar. But carriage returns must be indicated in Search and Replace by typing ^p. Double carriage returns are removed by striking ^p^p in the "search" field, and ^p in the "replace" field. Tabs are indicated by ^t.

(Note: This article was written on a Mac using the program Ready Set Go. But the above macros were not copied manually or typed from memory. They were imported directly from my portable. To do this I opened the main macro file in one Editor window, found the relevant macro lines using Search, copied the lines to a new file in another window, sent them to the Mac with five keystrokes or so, then inserted them into this document using the "Get Text" merge function in Ready Set Go. I timed the whole operation at about 45 seconds -- B.R.)

[Byron Rigby is an Australian subscriber to *The Portable Paper*. Byron is also the Governor General of the Transcendental Meditation and TM Sidhis Program in Australia -- Hal.]

Soft Font Files Created by HP's Type Director Works with Plus!

Frank Keresztes-Fischer gave me a call right before deadline and told me that he is using 22 soft fonts with his Portable

Plus, MS Word ROM, and 512K LaserJet II. Frank used Type Director on an IBM compatible desktop to create the font selection. Then he took the font files, compressed them with PKZIP, and stored them on one HP9114 3.5" floppy. He then uses a batch file to download all the fonts first thing in the morning (a ten minute process) and then has access to the many-sized regular, bold, and italic fonts for use within MS Word during the rest of the day. Frank believes it can work similarly with WordPerfect. He promises a more detailed article next issue.

UltraLite Connection Discontinued

We just completed the November / December issue of *The UltraLite Connection* -- the final issue of our experiment into the PC-laptop world. We are very proud of the seven issues we published. As with *The Portable Paper*, much of the glory went to the subscribers who contributed many of the more enjoyable and useful articles.

We discontinued *The UltraLite Connection* because our subscription level was below break-even, and no longer growing. Also, NEC decided to abandon their Silicon disk format in favor of a traditional 20 MB hard drive in their new UltraLite. With 4 or 5 similar laptops on the market we felt the new machine did not warrant a newsletter.

Portable Technology Update

We use *Portable Technology Update* as a reference for some of the articles we write in *The Portable Paper*. *Portable Technology Update* focuses exclusively on the portable industry. It is supported by subscription (\$250 for one year, quarterly subscriptions and single issues also available) and has no advertising.

Data is organized by category in a tabbed, three-ring-binder format and updated monthly. *Portable Technology Update* provides information on the following topics:

- New Product Introductions -- summary of new products introduced during each month;
- Industry news -- events affecting the portable industry;
- Application case studies -- how specific companies are using these products;
- In-depth product reviews -- product comparisons, reviews, ratings and reports;
- Industry directory -- names, addresses, and phone numbers of the manufacturers;
- Product listings -- Model name, description and price of portable products;
- Product specification sheets.

Subscribers to *Portable Technology Update* also receive free telephone support, complimentary passes to shows and conferences, invitations to participate in laptop seminars, opportunities to beta test new products, invitations to participate in focus groups.

For further information contact: **Portable Technology Update, 125 Beach 124th St., Belle Harbor, NY 11694, phone: 718-318-3880.**

USED HP PORTABLES AND PERIPHERALS

USED HP110 Portables
Portable Pluses
HP150s
HP9114 Disk Drives
HP-IL ThinkJets
HP-IL Converters
Video Interfaces
HP Software
HP ROMs
and more

(If you've bought a 1- or 2-megabyte RAM drawer, we'll even buy your old RAM drawer and extra memory!)

We buy them.

No longer using your HP Portable or peripherals? Turn them into cash through The Portable Equipment Exchange. Prices fluctuate, so call us for current figures.

We sell them.

Buying used HP equipment makes sense. You know HP quality! Even used HP machines can serve you well for years. Call for current prices.

We guarantee them.

Any used item you buy from us can be returned within 30 days for a full refund. In addition ↴

ONE-YEAR GUARANTEE
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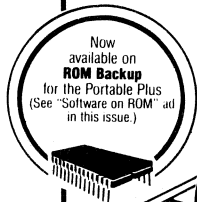
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The Portable Equipment Exchange
—a division of Personalized Software
P.O. Box 869 Fairfield, IA 52556

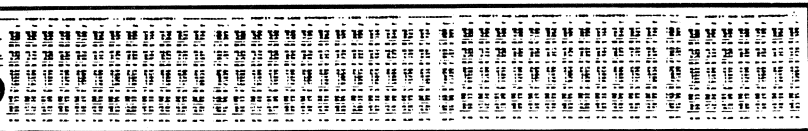
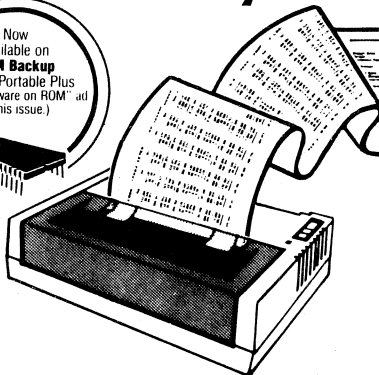
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For good buys on used—and new—HP equipment, see our 4-page brochure enclosed with this issue.

No more cutting and pasting— Now you can print it sideways!



Now available on
ROM Backup
for the Portable Plus
(See "Software on ROM" ad
in this issue.)



SIDEWINDER

SideWinder is published by Southern Software

At last! Sideways printing for the HP Portable, Portable PLUS, and ThinkJet!

(And the HP150, Vectra, IBM PC, MS-DOS computers, and most HP graphics printers.)

It's called SideWinder, and it's perfect for Lotus 1-2-3 print files, MemoMaker files, or any other text (ASCII) file that's too wide for a normal page.

Just type in the file name, and SideWinder does the rest, printing up to 53* rows *sideways* - for as long as your paper supply lasts. You'll never need to cut and paste again!

SideWinder's high-quality graphics characters are indistinguishable from ordinary characters, and SideWinder prints just as fast as your ThinkJet can.

In addition, a built-in mini text editor lets you get inside your print files and easily create **double-width** characters and underlines.

SideWinder \$69.95
\$59.95 for Portable Paper subscribers

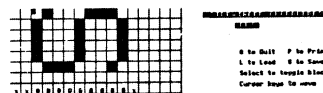
PRODUCT NO. SW11NS

SideWinder 1.01 owners may upgrade to current version 2.01, which supports 8 chars/inch, by sending Personalized Software \$7.50 or by mailing a self-addressed \$.39 stamped envelope and the SideWinder master disk.

RECOMMENDED FOR:	
HP110 Portable	•
Portable Plus	•
Portable Vectra	•
HP150	•
IBM PC and compat.	•
Available on ROM Backup for the Portable Plus	

OPTIONAL EXTRAS: Southern Software of New Orleans, creators of SideWinder, have also created two companion utilities that work only on The HP Portables:

SideChar lets you create your own sideways characters.



Simply fill in a grid on your Portable to modify SideWinder's built-in characters . . . create italics . . . Hebrew letters . . . integral signs . . . whatever sideways characters you wish.

Sketch & Print lets you make line drawings on your screen using the cursor and function keys.



It's a lot like those Etch/Sketch toys you played with as a child. (Actually, it's even better because you can draw not just horizontal and vertical lines, but also *diagonals* with a single key.) Sketch & Print also lets you print - and save - anything you draw on the screen.

\$10 for both utilities when purchased with SideWinder

★ For a complete graphics software program, see ad for "Sketch" in this issue.

Order form and guarantee are on inside back cover or send check or credit card number to Personalized Software, PO Box 869, Fairfield IA 52556 (515) 472-6330.

*105 rows for QuietJet Printer

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NEWS FROM

Personalized Software INC.



Products that make HP Portables smarter

P.O. Box 869, Fairfield, Iowa 52556 515 472-6330

By Hal Goldstein and Richard Hall

Hewlett-Packard formally announced the "discontinuation" of the Portable Plus a while back, but it appears that quite a few people didn't get the message. Not only do Portable Plus owners continue to use one of the best portable computers ever built, but Personalized Software and other third-party software and hardware developers continue to take advantage of, and extend the Portable Plus's rich potential by creating new products for the Plus.

Here are some of the new products that we will ship by the end of 1990, and some other very exciting products we hope to ship in 1991 if things go right.

Products Shipping by End of 1990

- Empowerer II for the HP9114
- Empowerer II for the ThinkJet

Most HP Portable users really appreciate the portable, battery-powered HP9114 disk drive and HP ThinkJet printer. However, maintaining the battery for these units can be trying and expensive. The rule for maximizing the HP9114 is leave it charging whenever possible. The ThinkJet rule is opposite: do not charge it unless the low battery indicator flashes - and then just overnight.

Furthermore, disk intensive operations mean that the HP9114 can give out in the middle of its work. If the ThinkJet battery becomes low and weak it may take a few minutes of charging before it is ready to print again. If the HP9114 or ThinkJet battery completely dies then the unit is inoperable until the battery is replaced.

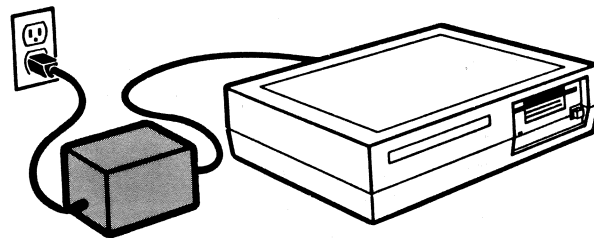
These batteries are not cheap: \$65 and \$55 for the HP9114 and HP ThinkJet batteries respectively.

Many users have their ThinkJet and HP9114 in one spot the majority of the time and could run them off a normal electrical AC outlet. However, neither the ThinkJet or the HP9114 has that capability. When you plug in your ThinkJet or HP9114, you are only charging the battery -- you are still running the unit off the battery not the AC electrical power source.

ENTER THE EMPOWERER

We manufactured several versions of what we called the HP9114 Empowerer. The Empowerer consists of a box (power supply). An AC cord and plug attaches to the box on one side, and on the other a special connector that plugs inside the HP9114 where the battery normally connects. The normal HP9114 battery must be removed in

order for the Empowerer to work. That original solution was utilitarian but awkward and ugly.



Empowerer Connected to 9114 Disk Drive

Ron Chase, former HP technician, Personalized Software's service and repair specialist, and designer of ROMBO and the 128K EPROMs, found a much better solution.

He found a power supply not that much heavier or bulkier than the normal HP charger that could drive either the HP9114 or the ThinkJet. (The HP charger is 2.5" x 2" x 1.75" and weighs 6.3 oz. This new supply is 2"x 3"x 2" and weighs 18 oz.)

Ron makes use of that power supply by modifying either the existing ThinkJet or HP9114 battery case. Once the case is modified, the power supply plugs right into the modified case. Voila! We now have an AC-powered ThinkJet or HP9114.

If you require a battery-powered ThinkJet or HP9114, simply remove the modified battery case for the real thing. Note that once the battery case is modified for AC power useage it cannot be used as a battery. This is because the battery is removed from the case during the modification.

THE GOOD NEWS AND THE BAD NEWS

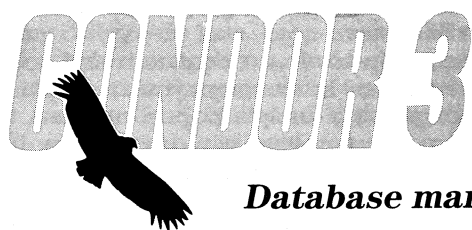
This solution is much cleaner and aesthetically pleasing than the original Empowerer. The Empowerer II is just like running a ThinkJet or HP9114 with the HP charger plugged in, only the charger is a little bigger and heavier.

The only bad news in this solution is that we are dependent on our supply of battery cases. We have about 100 bad ThinkJet and 100 bad HP9114 batteries in stock and we will recycle these. We do not think we can purchase the cases independent of the battery, so we will be dependent on a supply of bad batteries or have to purchase new batteries.

If you have bad batteries sitting around, please send them in for recycling rather than adding to the world's excess garbage. We'll send you a \$10 gift certificate upon receipt of your case. (Offer good up to four cases. If you plan on sending more than four cases, please call and we'll work out something.) Furthermore, as you will see from the pricing structure, you will receive a \$20 discount if you send in your case when you order an Empowerer.

ORDERING INFORMATION

We expect to be shipping these Empowerer II units in December. Pricing for the Empowerer II is found on the page 14.



and CONDOR, JR.

Database management made easy!

If you have customer files, sales records, inventory, or lots of *anything* that you need to keep track of, you need a database management system (DBMS).

If you want a sophisticated DBMS that even a beginner can use, try Condor 3 or Condor, Jr.

Condor 3 runs on the Portable Plus, Portable Vectra, and HP150. Its smaller cousin, Condor, Jr., runs on the HP110 and Portable Vectra only. Both versions let you **set up a database in a single step**, simply by typing a picture of the input form right on your screen. You enter and modify data—or even revise the database structure—simply by typing right on the same form.

Unlike other database systems, you simply tell Condor **what** to do, not how to do it—and you tell it using simple, English-like statements such as LIST CUSTOMER BY NUMBER NAME STATE

AND COMPUTE TOT SALES.TOT DATE.

As a result, it takes only one fifth the time to compute, display, sort, search, or report on your data using Condor as compared with other database systems such as dBASE III. Most users find they can create and begin to use their first database within minutes after opening the package.

Condor 3 (but not Condor, Jr.) is a fully **relational** DBMS. That means you can use Condor 3 to compare, select, and combine data from two or more files. Condor 3 also lets you create your own custom report formats. (Condor, Jr. includes a LIST command for limited report writing.)

You can transfer data back and forth from Condor 3 to Lotus 1-2-3 print files

WHAT THE EXPERTS SAY:

"If you want a database you can use immediately (without even opening the manual)... Condor 3 is the DBMS to buy."

—Jim Morgan, Data Base Advisor

"... a textbook example of what a database management system should be."

—James Perotti, PC Magazine

"... for a straight database, I'll take Condor."

—Jerry Pournelle, InfoWorld

and other files not created by Condor.

Over 150,000 Condor programs are currently in use. We think the Condor people have done a fabulous job of packing an enormous amount of database power into an incredibly easy-to-use system. We urge you to try Condor 3 or Condor, Jr. at our risk today.

Condor 3 **\$495.00**

\$379.00 for Portable Paper subscribers

PRODUCT NO. CR11NS

Condor, Jr. **\$99.00**

\$89.95 for Portable Paper subscribers.

PRODUCT NO. CR13NS

RECOMMENDED FOR:		Condor 3	Condor, Jr.
HP110 Portable		•	•
Portable Plus		•	•
Portable Vectra		•	•
HP150		•	•
IBM PC and compat.		•	•

MEMORY REQUIREMENTS

Condor 3 requires only 128K of memory to run. The entire program, including the report writer, fits in less than 360K. Since each command is in its own file, you can save memory space by deleting any commands you don't need.

Condor, Jr. is even more memory-efficient: the main program is only 25K, and you add individual 10K programs for each function you wish to use.

HPduette

It transfers files both ways between your Portable Plus and your desktop computer without an HP-IL card!

An HP-IL card inside your IBM PC or compatible computer lets you transfer files to and from your Portable Plus.

It's a good solution to the data transfer problem, *provided* you only use one desktop computer. But if you ever need to transfer data between your Portable Plus and someone else's desktop computer, you're stuck—or at least you were until now.

Because now there's a way to do it with software.

It's a program called HPDuette. Together with a special serial connecting cable that it comes with, HPDuette is all you need to transfer files at high speed both ways between your Portable Plus and any IBM PC compatible desktop.

RECOMMENDED FOR:	
HP110 Portable	Portable Vectra
Portable Plus	• HP150
IBM PC and compatibles	•

HPDuette performs complete error checking during the transfer process to ensure data integrity. It handles multiple-file transfers, subdirectory transfers, and DOS "wild card" usage. It lets you use DOS commands such as type, list, rename, and erase without having to exit the program. And it transfers data *faster* than you can with an HP-IL card.

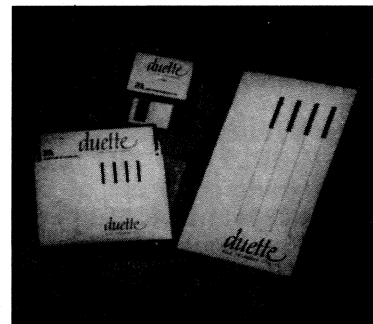
HPDuette is easy to use too. Simple menus and easy-to-understand help screens are available at all times.

For true convenience in file transfer to and from your Portable Plus, order HPDuette today.

HPDuette with cable for Portable Plus ... **\$99.95**
\$89.95 for Portable Paper subscribers.

PRODUCT NO. DU11NS

HPDuette is a registered trademark of Platte River Associates, Inc.



HPduette comes with a serial cable and two disks; you load one disk into your Portable Plus and the other into the desktop.

HPDuette transfers data at 57,600 baud. To use HPDuette, you connect the 9-pin serial port on your Portable Plus to the serial port on your desktop computer using the serial cable that comes with the program.

60-DAY MONEY BACK GUARANTEE

See order form for details.

TO ORDER

Use enclosed postage-paid order form or send check or credit card information (#, exp. date, signature) to:

Personalized Software

P.O. Box 869, Fairfield, IA 52556 515 472-6330

Empowerer II Pricing

Product	Part Number	Retail Price	Sub. Price
Empowerer II for HP9114	EM13NH	\$119	\$95
Empowerer II for ThinkJet	EM14NH	\$119	\$95

Discount - Per unit ordered:

Subtract \$20 if you send battery case with order.

Subtract \$30 if you send old Empowerer with order.

For example, if a subscriber wants both an HP9114 Empowerer II and a ThinkJet Empowerer II it would cost him \$95 times 2 or \$190. If he sent a ThinkJet battery and a HP9114 battery and an empowerer with the order he could subtract \$20 plus \$20 plus \$30. His total would then become \$120.

If that subscriber sends in two additional batteries he receives two \$10 gift certificates for each additional battery.

■ AC Powered ThinkJet and HP9114 Disk Drive

110

P+

Because of the development of the new Empowerers, we will now be selling the ThinkJet and HP9114 Disk Drive already modified to run off of AC power. The battery must be purchased separately when ordering the AC powered ThinkJet or HP9114.

Product	Part Number	Retail Price	Sub. Price	With Portable Purchase
AC powered ThinkJet (HPIL)	TJ11UX	\$545	\$249	(\$229)
AC powered HP9114B Drive	DJ11UX	\$845	\$299	(\$249)
HP9114 Battery	BT13HC	\$65	\$65	(n.a.)
ThinkJet Battery	BT14HC	\$55	\$55	(n.a.)

■ The Writer's ROM

P+

We have made good use of ROMBO (Personalized Software's 128K byte EPROM burner) by seeing what related programs we could put together on as few ROMs as possible. We have developed The Writer's ROM, a great combination of programs on a two 128K ROM set.

We call it The Writer's ROM because all necessary programs to fulfill your Word Processing needs are contained within The Writer's ROM. Here are the programs:

- **The Editor II** -- Our highly-acclaimed, easy-to-use, (ASCII) word processor with Lotus-style menu system. Features include Search and Replace, Editing two files at once, Macros, File Merge, Windows, and more.
- **Webster's Spelling Checker** -- You can easily spell check Editor II and MemoMaker documents with Webster's 110,000 word dictionary.
- **FormatPlus** -- Need to put headers, footers, page numbers in your Editor II or MemoMaker document - no problem - run the document through FormatPlus.
- **FilePlus** -- This is a great program for copying, deleting, viewing, renaming, backing up files without having to use DOS or type the names of files. FilePlus lists files on the screen of one or two directories. Move the cursor to a file name listed on the FilePlus screen, type the letter "e" and you will find yourself in The Editor II

editing that file. In fact any program can be started from within FilePlus.

- **Shelp** -- Use Shelp to do a calculation and copy the result into The Editor II document you are working on. Jot down notes using Shelp's popup notepad. Use Shelp to turn off your Plus while remaining in The Editor II. Shelp also has a macro function that can be used within most any program.

When purchased separately these programs occupy 6 ROMs and cost subscribers \$869. The Writer's ROM takes two ROMs. The subscriber price is \$499, non-subscribers \$599.

For a limited time we will work with customers who already have disk or ROM versions of some of these programs. Call for information concerning how much credit we will give you for your past purchases.

■ RightWriter on ROM, OutlinePlus on ROM, and The Writer's ROM, Part II

P+

RightWriter 2.1 is a grammar checker that works quite nicely on the Portable Plus with MemoMaker or The Editor II. It tags awkward usage, convoluted or long sentence structure, and reports grade level of writing. (See Vol.2, No.5, Pg.30 for a more detailed review.) We have put RightWriter on a set of two 128K ROMs so you can make RightWriter part of your word processing tool kit built right into the Plus. The package price is \$199. If you already own RightWriter for the Portable Plus the ROM backup pair will cost \$110.

We also will put OutlinePlus on ROM. The subscriber price is \$69.95, the ROM package price is \$165.

Finally, we will combine RightWriter and OutlinePlus on a pair of ROMs that we will call The Writer's ROM, Part II. We will sell this combination to subscribers for \$299 and to non-subscribers for \$350. We will deduct \$89 if you already own the software version of RightWriter.

New ROMs Price List

Product Name	Part Number	Retail Price	Sub. Price	Backup ROM* Price
The Writer's ROM (Two-ROM set includes Editor, Webster's, FormatPlus, FilePlus, & Shelp)	WR11NK	\$599	\$499	\$170
Writer's ROM, Part II (Two-ROM set includes RightWriter & OutlinePlus)	WR12NK	\$350	\$299	\$140
RightWriter 2.1 (Two-ROM set)	RW11NK	\$205	\$199	\$110
OutlinePlus (One-ROM set)	OU11NK	\$175	\$165	\$95

- * ROM Back-up price is for those who have already purchased a disk copy of the software.

■ OutlinePlus

P+

For years I've searched for an outline program for the Portable Plus. A wonderful, incredibly powerful outline program named Grandview by Symantec serves as the hub for all my daily work on my Portable Vectra at the office.

With it I plan projects, create organizational charts, produce my daily to-do lists, keep track of what work I've assigned to which employees, and brainstorm.

As reported in the past couple of issues of The Portable Paper (and in Ed Keefe's and Tom Page's articles in this issue), we found an outline program for the Portable Plus. Furthermore, David Toliver, the author of the program, has been great to work with. He has spent many, many hours customizing the program for the Portable Plus, improving its documentation, and working with beta testers Ed Keefe, Tom Page, and myself. David is one of the few programmers I have encountered who can also create clear, easy-to-understand documentation.

I now use OutlinePlus on my Portable Plus whenever I travel, to plan and to brainstorm. OutlinePlus can also be used as a word processor with outlining features.

David Toliver created the entire documentation within OutlinePlus. In that documentation David writes:

"OutlinePlus is an outline processor program that simplifies the development and management of outlines and other structured text. It shares many features with word processors, but both tools have their distinctive strengths. While word processors are tools for the entry and development of complete formatted texts, OutlinePlus is a tool for evolving a well-organized and comprehensive structure for a document. OutlinePlus is very effective in rapidly shaping a document at its inception. Word processors are better at taking a shaped document to completion.

What can OutlinePlus do for you? The following is a short outline of possible applications (generated on OutlinePlus)

1. Document Planner
 - 1.1 Tables of Contents
 - 1.2 Concept Organizer
2. Idea Worksheet
 - 2.1 Scratch Pad
 - 2.2 Design Tool
3. Activity Planner
 - 3.1 Appointments Schedule
 - 3.2 To-do lists
4. Classification Tool
 - 4.1 Cataloging
 - 4.2 Inventory
 - 4.3 Organizational charts
5. Program development Tool
 - 5.1 Structured Languages
 - 5.2 System Documentation
 - 5.3 Pascal and C

OutlinePlus, or any outliner, can be useful whenever you are organizing ideas or concepts into a formal structure. OutlinePlus lends itself to classification tasks, with its built-in decimal and classical labelling notation that automatically adjusts to changes in the structure. It also is an acceptable text editor. For instance, all early drafts of the OutlinePlus user manual were written and maintained using OutlinePlus. The size of your outline is only limited by available memory."

OutlinePlus is available to subscribers on disk for \$69.95 (\$79.95 for non-subscribers) and as a ROM backup package (disk and ROM) for \$165.



PORTABLE POWERHOUSE

~~(\$3000 original retail)~~

ONLY \$495!

(\$795 with portable printer and disk drive)

Hewlett-Packard's HP110 Portable

Includes word processor, Lotus 1A, built-in modem, communications software—and a ONE-YEAR GUARANTEE!

Hewlett-Packard's HP110 Portable was way ahead of its time. An MS-DOS machine (version 2.11), the HP110 stores programs and data on ROM chips. The rugged unit weighs only 8 pounds, has a 16-line screen, and has enough available memory for more than 80 pages of word processing text.

With up to 20 hours of continuous use per battery charge, the HP110 is ideal for business travel.

At only \$495 used, our HP110s make great gifts for students, friends, and spouse. **Note:** With most other computers, used means worn out. But there's little that can wear out in an HP110, because there are no moving parts except for the keys.

Every HP110 we sell is fully tested and is **guaranteed against malfunction for one full year.** All units come with a **30-day no-risk trial** and **free technical support.** For details or to order, call **(800) 373-6114.** Call now—offer good only while supply lasts!

ALSO:
Like-new Portable Plus: only \$1295!
(original retail: \$2795)
Used: \$895

We also publish the HP Portable newsletter, and offer more than 100 software programs that make the HP110 and Portable Plus even more powerful.



Personalized Software INC.

The worldwide HP Portable experts

P.O. Box 869, Fairfield, IA 52556 (515) 472-6330 FAX: (515) 472-1879

Products we hope to ship in 1991

■ DrawPlus -- Object-Oriented Graphics Program for the Plus

[This description of DrawPlus is based on material from Aaron Morse, its author.]

Good graphics software and the Portable Plus have until recently been thought of as mutually exclusive. Sure, there is Sketch, but anyone familiar with the graphics offerings on other systems realizes that Sketch is woefully underpowered. My familiarity with the Macintosh prompted me to start a three year quest to develop the graphics package of my dreams for the Portable Plus. This package, DrawPlus, should be introduced this winter.

Drawplus is an object-oriented graphics package, which is to say that a drawing is composed of individual, editable, overlapping shapes. This strategy offers many advantages over the bitmapped strategy of Sketch. For instance, files may be rasterized to higher than screen resolution for printout at 300 dots per inch on the Deskjet or Laserjet. Also, the pen patterns may be used as a facsimile for color on the computer's display, and then printed in color on plotters or color printers. Additionally, the files created by object-oriented packages are often much smaller than their bitmapped counterparts. At the same time, no program is an island, so Drawplus integrates the ability to import graphics data from other programs, including Lotus 123

graphs and Sketch bitmaps.

Drawplus is a comprehensive package that is best used to create single page drawings, illustrations, flyers, and graphs. For instance, DrawPlus enables users to create a graph with 123 and import it for full-page editing and enhancement. The graph may then be printed to a color plotter for a dynamite visual aid.

It has been said that a picture is worth a thousand words, but often the words are indispensable. With this thought in mind, DrawPlus gives the user a full arsenal of textual tools. DrawPlus allows the user to compose with multiple fonts of variable sizes, justifications, and spacings. Also, text may be rotated in one degree increments. If you need rotated Old English text to make your point, with DrawPlus, you have it.

This is a summary of the major features slated for DrawPlus 1.0:

- Creation and editing, full-page object-oriented drawings.
- Importation of graphics data from other packages: currently Sketch files and Lotus graphs. Additional support for other formats could be provided if demand warrants.
- Output to a variety of printers and plotters at higher than screen resolution and in color. (Note: this feature will probably be available through a separate print utility to minimize the size of the DrawPlus program.)
- Screen viewing with either reductions or enlargement.
- Full featured graphical text editor supporting multiple fonts of varying sizes, justifications, and spacings.
- Pasteboard with cut, copy, and paste features.
- Undo, allowing unerase of objects.
- Horizontal and vertical flipping of objects.
- Rotation of objects in one degree increments.
- Seventy-two pattern palette for drawing borders and object fills.
- Nine possible border widths, including invisible and hairline (line thinner than screen resolution permits).
- Lines with or without arrowheads, rectangles, circles, ovals, and arcs created in a one-step process.
- Graphic user interface with mouse support and keyboard equivalents.
- Advanced object grouping.
- Scaling of objects.

In designing Drawplus, we almost invariably chose functionality over other criteria, including speed. For instance, users may rotate text, but doing so will degrade system performance somewhat. Those who have invested in the FastPlus upgrade from Personalized Software will appreciate the additional system speed when using this package.

Drawplus was developed using Borland's Turbo Pascal. Some of the low-level graphics primitives (plot, circle) have been rewritten in assembly language to improve speed.

The Portable Paper will announce the product as soon as it is ready. Please contact Personalized Software for product availability and pricing. Users needing additional information or with feature requests should contact: Aaron Morse, President, Spontaneous Software, P.O. Box 900-641 UAF, Fairbanks, AK 99775, (907) 479-2247 or (907) 283-7994.

■ Portable Plus Smart Charger

Recently we traded a local engineer a Portable Plus for some HP test equipment. He became intrigued by the

battery-charging dilemma.

One of the best things about the Portable Plus is its long battery life - between 12 and 20 hours - the longest in the industry for a unit with a normal-sized keyboard. However, as reported in past issues of *The Portable Paper*, HP now recommends a rather awkward procedure for maximizing battery life for the Portable Plus. HP says the unit should be discharged to between 60% and 80% before recharging. Then recharge the Plus overnight and remove the charger until you are back down to 60% to 80%. Not exactly a user friendly solution. (However, you are probably better off leaving it continually charging rather than letting it drop much below 50%. Too many deep discharges take the most toll on the Portable Plus battery.)

This engineer is designing a Portable Plus Smart Charger. Users will use this charger rather than the normal Portable Plus charger. This charger will be designed specifically for the Portable Plus. The Portable Plus Smart Charger allows the battery to discharge to 60 to 80% before initiating a charging cycle.

Unfortunately, the project is proving to be more of a challenge than the engineer originally thought. Hopefully, we'll be able to produce a product sometime in 1991.

■ WorldPort Fax for the Portable Plus, HP110 and HP150

David Hughes, author of TermPlus, is now working with the TouchBase folks to get the WorldPort Fax to work with the Portable Plus (and hopefully the 110 and 150).

The WorldPort 2496 is a pocket-sized external 9600 bps Group III Fax that connects directly to the serial port and can operate from its own battery or from an AC adapter. It is also a 2400 baud modem.

The 2496 connects to phone lines through two standard RJ-11 telephone jacks and comes with an acoustic coupler interface which allows the unit to be connected directly to the headset of a telephone when RJ-11 jacks aren't available (phone booths and old hotels/motels).

The 2496 comes with its own easy-to-use software that lets you send or receive a fax in the background or unattended and that automatically generates a cover sheet with name, number of pages, and comment. If David is successful, the Portable Plus version will probably support the basic fax commands (SEND, RECEIVE, etc.) without the fancy menu interface. The WorldPort 2496 will print to any HP or Epson-compatible printer, including the Diconix.

■ 2 MB Flash ROM / 1 MB RAM Board

We've been progressing on the Flash Memory ROM drawer idea we first mentioned in Vol.5, No.4, Pg.25. Flash Memory is the new EPROM technology developed by Intel Corporation. A Flash ROM is an electronically programmable/erasable ROM chip. Existing EPROM's must be erased using ultraviolet light. The Flash ROM can be erased and reprogrammed electronically and should revolutionize the computer industry.

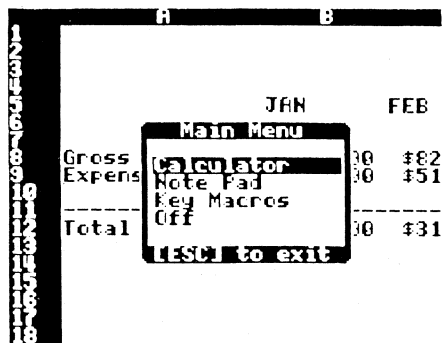
Our idea is to build a 1 MB RAM/2 MB Flash ROM drawer. This drawer would be used with the ROMBO software we've already produced, and would give the user up to an additional three MB of Read/Write file storage. An external ROM burner would not be needed.

Shelp

Recommended by Hewlett-Packard, and used by more than 1,000 of their employees.

It's a program called **Shelp** (*shell + help*), and it runs on the Portable Plus from within any non-graphics program. Here's all you do:

Press [Ctrl] [Shift] [Extend char] and up pops the Shelp menu, right in the middle of your application (Lotus in this example):



Instant Access Pop-ups for the Portable Plus: Calculator • notepad • macros • and more

"A great, easy-to-use productivity booster. If there's one program every Portable Plus owner should have, it's Shelp."—Hal Goldstein, Publisher, The Portable Paper

The menu gives you 4 choices: Calculator, Notepad, Key Macros, and Off.

Choose **Calculator** and get a 4-function calculator that works just like a pocket calculator with memory. You can:

- save results in ten different storage registers and retrieve them again with two quick keystrokes

- "paste" results at the cursor location in whatever application you were using when you invoked Shelp.

Choose **Notepad** and a "scratch pad" pops up on your screen. Type whatever you want into it, exit to your application, and then recall the notepad whenever you want.

No more having to scribble notes on paper to remind you of phone numbers, things to do, or bright ideas!

Choose **Key Macros** and you can assign "strips" of up to 31 typewriter characters to any of the 26 letters in the alphabet. This saves you having to type the same phrase over and over again.

Example: If you type "United States" a lot, you could assign the entire phrase to the "U" key. Just move the

cursor to "U" in the Keyboard Macros menu and type "United States."

To recall "United States," simply press [Ctrl] [Extend char], then [U]. Presto—"United States" appears at the cursor location in your application!

Choose **Off** and your Portable Plus turns off without having to return to P.A.M., and without having to save your application file. When you turn your computer back on, you'll be in the same place in the same application, with no data lost.

All the capabilities of IBM-PC programs like Borland's SideKick and SuperKey? Certainly not, but Shelp's the only such program for the Portable Plus. It's a clean, easy-to-use, and highly useful helper you'll want at your fingertips always.

Shelp runs on the Portable Plus only. It works with Time-Manager, MemoMaker, Reflection 1, Lotus, and any other non-graphics program. (Shelp does not run with MS Word.)

Shelp was written by Randy Salo, the former HP engineer who authored MemoMaker on the original HP Portable.

PRODUCT NO. SH11NS

Shelp \$55 (\$49.95 for Portable Paper subscribers)

60-day no-risk trial: If, after 60 days you are dissatisfied with this product for any reason, you may return it for a full refund. **To order,** use the postage-paid form at the back of this issue, or send check or credit card number to: Personalized Software, P.O. Box 869, Fairfield, IA 52556 515/472-6330

© Copyright 1987 Personalized Software

SideKick and SuperKey are registered trademarks of Borland International, Inc.

You would use the Plus' own electrical current to program and erase the Flash Memory. The user would have the option of buying the drawer as a 1 MB RAM drawer. He could later populate the drawer with 1 or 2 MB of Flash ROM.

Flash Memory is a little less flexible than a regular Edisc. It takes longer to copy files to Flash Memory (about one minute to copy files to subdirectories of 256K or less) and subdirectories have to be modified as a whole. The latter means that in order to delete, modify, or add a file, to a subdirectory, you must recreate the entire subdirectory. This makes Flash Memory not quite as convenient as the RAM Edisc, but much more convenient than creating or purchasing and then installing ROMs.

COMBINATIONS OF RAM/ROM IN ONE DRAWER

We've just constructed a working prototype with 256K of Flash ROM and 256K of RAM memory. The development of a 1 MB RAM drawer may be a particularly important development since HP no longer produces the 1 MB RAM anymore.

We think all this should be able to work with the existing ROM drawer, or a RAM drawer. We are not sure what the price(s) might be at this time.

We would like to emphasize that everything in this article is speculative, since we have not yet produced a full-sized prototype. Once we do, it may prove uneconomical to produce. However, we're hopeful and we'll keep you informed of the progress.

■ 20 MB Internal Hard Drive for the Portable Plus

We mentioned in Vol.5, No.4, Pg.26. that MicroTek of West Germany is designing a new drawer to house a Prairie Tek 20MB hard drive. Such a device would reduce battery life of the Portable Plus, but give you 20MB of internal storage.

■ WordPerfect on ROM

MicroTek of Germany has broken the 256K ROM subdirectory barrier and has sent us a ROM drawer with WordPerfect's 300K WP.FIL file on ROM. They tell us that they've figured out a way to put files of any size on ROM. However, it is apparently a technically involved process and may not be available in a generalized form that we can include with our ROMBO ROM Burning Kit. It appears that you must directly program each file greater than 256K.

Hopefully, we will be able to offer WordPerfect all in ROM (and upgrade existing users) soon.

■ DataPerfect on ROM

MicroTek has also put this database program from WordPerfect on ROM. We may be able to make this available in the future.

P+ ■ Condor on ROM

We've asked Condor 3 expert Rod Sharp to see if he could create a ROM version of the database program.

■ Dac Easy on ROM

P+ We've asked Dac Easy expert Frank Keresztes-Fischer to see if he could create a ROM version of this accounting program.

1991 Subscribers Disk

110 We're finalizing the 1991 Subscribers Disk and it looks good. Here are the leading candidates for the disk:

P+ **LZEXE** -- a great compression program that lets you compress many .EXE and .COM program files by as much as 70%. LZEXE runs on PC-compatibles, NOT the Plus.

PV **SCRNCH** -- is another file compression program for .COM or .EXE files that helps save Edisc space! SCRNC runs on the HP110 and Portable Plus. However, for best results (greater speed and compaction) run LZEXE on a PC-compatible to compress your favorite HP110 or Portable Plus .COM or .EXE program file. Then transfer the LZEXE-compressed file to your HP Portable. The files compressed with SCRNC (or LZEXE) run directly without an intermediate decompression step or use of another program.

LS/12 **VDE 3.0** -- is the latest version of a great word processor that "may be the finest piece of word processing code ever written" according to John Dvorak, columnist with the popular *PC Magazine*.

KERMIT -- is a popular data communications program that can be used when transferring files via modem or serial port from HP Portables to another PC. [Note: We may not include Kermit on the 1991 Subscribers Disk because there may not be enough room on the disk. If we don't put it on the disk, we will include a certificate to all subscribers who have the subscribers disk for a free Kermit disk.]

STEREO SHELL 3.0 -- is the most recent release of a popular, full-featured shareware file manager program.

PAK -- is the newest release of another file compression program. (Shareware)

TETPLUS -- is an offshoot of Tetris, the popular Russian game of strategy, available for the first time on the Portable Plus. (See Looking Glass column.)

UDIR -- (The Ultimate Directory). If UDIR can't do it, nothing can! The Ultimate Directory Lister lets you list any, or all, files in a specified directory and its subdirectories. You can sort by name, date, size and attribute. You find subtotals and grand total of all files chosen. You can redirect the output to a file or printer. And much more!

In addition to the above, the 1991 Subscribers Disk may include other useful DOS utilities and Lotus worksheets and games that work on the HP110, Portable Plus, LS/12, and Portable Vectra.

110 KEEFE'S COLLECTION

P+ Ed Keefe helped select software to go on the 1991 Sub-

scribers Disk. Unfortunately he sent too much good stuff to get on one disk.

Some of material is more universally useful, and some less. But there are lots of good programs that didn't make it on to the 1991 Subscribers Disk. We are going to offer the "Keefe" Collection" in the second or third 1991 issue of *The Portable Paper*. It will probably consist of two to three disks and cost around \$30 for subscribers and \$50 for non-subscribers.

Flowcharting II, PertMaster and WordPerfect 4.2 Removed From the Price List

P+ We no longer can obtain Flowcharting II, PertMaster, or WordPerfect 4.2 from the manufacturers. Therefore, we must remove these products from the price list.



[Vectra Views contains information which specifically pertains to the Portable Vectra CS and Vectra LS/12 Laptop PC. In this column we note the latest developments in Portable Vectra and LS/12 products from Hewlett-Packard, Personalized Software, and other third parties, and include specific tips for Vectra and LS/12 users. Please feel free to contribute on disk or letter to Personalized Software, P.O. Box 869, Fairfield, IA 52556, call (515) 472-6330, or Fax (515) 472-1879.]

**Backpack
5.25" External Floppy Drive**

PV **LS/12** This external floppy drive gives your Portable Vectra CS and LS/12 additional versatility, connecting easily to the parallel port on the back of the HP Portable, allowing you to access information and programs on 5.25 inch diskettes.

By Richard Hall

You take it out, plug it in, and it works. Backpack is almost that simple to operate. We tested the 1.2MB 5.25 inch external disk drive (model no. 1231) by Micro-Solutions Computer Products with the Hewlett-Packard

PV
LS/12

LS/12, an HP Portable Vectra CS, and an NEC UltraLite. Backpack connects to any PC-compatible computer via the parallel port (no expansion slot or special gadgets needed to connect it). The parallel port on the LS/12 and the Portable Vectra CS are located on the back of the computer. Once Backpack is connected to the parallel port you can daisy-chain another parallel device such as your printer to the port on the back of Backpack. *[Note to LS/12 users - The Weltec 5.25" drive (see Vol.4, No.4, Pg.19) may be more appropriate. It connects to the LS/12's External Drive Port, leaving the Parallel port on the back of the LS/12 free.]*

INSTALLING BACKPACK

1. Connect Backpack to the parallel port and turn the computer on.
2. Place the Backpack software disk in the 3.5" floppy drive.
3. Log on to the floppy drive and type **backprep**.

BACKPREP.COM is Backpack's software installation program. It will ask you if you boot from a hard drive and if so, to identify its drive letter. Assuming your hard drive is designated as the C Drive, you answer **yes** and type C and BACKPREP.COM creates and installs the following 4 files on your hard drive:

- BACKPACK.SYS (13,274 K) -- the main driver program needed for Backpack to run;
- BPFORMAT.COM (7,651 K) -- similar to the DOS format utility, this program can be used to initialize blank diskettes into 360 KB or 1.2 MB formats;
- BACKFMT.COM (17,531 k) -- a background diskette formatting program that allows you to format diskettes while you continue running other programs;
- BPDRIVES.COM (2,210 K) -- a utility that flashes a message letting you know the Backpack drive letter.

In addition, BACKPREP.COM will modify your CONFIG.SYS file so that BACKPACK.SYS is installed in RAM each time you turn on, or reboot the computer. Of the four files installed, only BACKPACK.SYS is necessary for the running of BACKPACK. The other three files can be deleted after installation to save space.

DESCRIPTION / IMPRESSIONS

BackPack weighs under 5 lbs., its dimensions are 6" x 10.5" x 2", and is powered by an external AC adaptor (no internal battery). It connects directly to the parallel port on any PC-compatible computer. It installs easily and works. If you need to access 5.25" floppies it's a nice addition to the LS/12 and Portable Vectra CS. I probably would not carry it around with me much. Instead I would keep it at a permanent work station located at a desk at home or in the office.

THINGS TO WATCH OUT FOR

- Make sure you turn it on! -- When I first tried to install the Backpack software I got the following message:

A BACKPACK drive was not found. Be sure the BACKPACK drive is connected to a printer port and that the power switch is in the ON position.

Sure enough, I turned on Backpack and the software installed.

- Format the correct diskettes -- I also ran into a problem trying to format a low-density disk (360K) in high-density format (1.2MB). The disk actually formatted, but DOS CHKDSK indicated that over half of it was unusable (and the rest is very unreliable). Make sure you buy 5.25" diskettes specifically designed for 1.2MB formatting.
- Installing on computer with no CONFIG.SYS file -- When I was installing the Backpack software on the HP Portable Vectra CS, I ran into a problem with the CONFIG.SYS modification. This particular machine did not have a CONFIG.SYS file to modify. Backpack installed the first four files and then gave me the following error message:

Disk error while accessing CONFIG.SYS. Backpack was not completely installed.

I investigated and found that the Backpack installation program created a file named CONFIG.*** with the appropriate device command in it. I renamed CONFIG.*** to CONFIG.SYS and rebooted and everything worked well.

- Backpack needs a fully IBM-compatible parallel port -- We had no problem running Backpack with the LS/12 and Vectra CS, but the ports on some low-cost PC clones are not fully compatible and may cause problems.

WHY ANOTHER DISK DRIVE?

Some people use their portables in conjunction with one or more desktop computers. In addition, many people receive software and document files on both 3.5" and 5.25" disks. Backpack gives you the ability to read from and write to 5.25" diskettes directly, without having to transfer files from 5.25" to 3.5" floppies first.

ORDERING INFORMATION

Backpack was developed by MicroSolutions Computer Products of DeKalb, Illinois. The 1.2MB, 5.25" version retails for \$349.

Subscribers to *The Portable Paper* can purchase it from Personalized Computing for \$329. Please call 515-472-6330 or use the Order Form in the center of this edition of *The Portable Paper*.



(Vectra Views continued on page 25.)

MAXIMUM POWER FOR YOUR PORTABLE PLUS

*Easy-to-use, lightning-fast
ROM chips save valuable Portable Plus memory
and eliminate the need for a disk drive.*



The most powerful and unique feature of your Portable Plus is that it lets you store programs on ROM (Read-Only Memory) chips for instant access.

Almost all other portable computers require a disk drive in order to function. A disk drive—even a portable one—is a bulky piece of equipment, easily breakable, and slow in loading programs.

By contrast, a ROM chip weighs next to nothing, is virtually indestructible, and lets you load programs instantly. (Programs on ROM chips don't take up any space on your Edisc.)

All of which means that your 9-pound Portable Plus is **the fastest, most portable, and most reliable computer you can own**—provided, of course, you take full advantage of its ROM technology.

YOUR SOFTWARE DRAWER WAS MEANT TO BE FULL

The engineers at Hewlett-Packard designed the Portable Plus so it could accommodate an optional "software drawer" containing 12 ROM sockets. Clearly, their intention was that those sockets be filled with useful programs.

But if you're like most Portable Plus users, you probably are using

just a few of the sockets for ROM-based programs like Lotus 1-2-3 or MemoMaker.

That's fine as far as it goes, but if you aren't using *all* the ROM sockets—or if you have to carry around an HP9114 disk drive wherever you go—*then you are not using your Portable Plus to full advantage.*

To start using the *full* potential of your Portable Plus, look over the chart at the far right. It contains more than 50 programs and utilities available on ROM chips from Personalized Software.

Taken together, these ROMs cover *every application you're likely to need*—from word processing to spreadsheets to data

communications, graphics, programming languages, and more. Which means once you install these ROMs, you'll have everything you need right inside your Portable Plus. *You'll never have to carry a disk drive again.*

We invite you to browse through the chart, read the information at the right, and then order one or more ROMs today. You'll find them to be fast, reliable, and an incredible boost to your productivity.

Whatever your reason: to free up valuable memory space... to eliminate the need for an external disk drive... or just for the convenience of lightning-fast program loading, *fill your software drawer with ROMs* and you'll turn your Portable Plus into the powerhouse its designers intended it to be.

With our exclusive Double Guarantee, the risk is all ours. Why not order right now?

P.S. If you have questions about any of the ROMs, give us a call. Brian or David will be happy to make some recommendations as to which ROMs might best meet your needs for word processing, spreadsheets, or whatever applications you're interested in.

EASY TO INSTALL

We supply clear instructions and diagrams with every ROM order. If you prefer, send us your software drawer and we will install your ROMs for you—and test them—at no charge.

To remove your software drawer, first back up your A drive (so you won't lose your data), then use an ordinary screwdriver to remove the two outside screws on the drawer.

You won't be able to use your Portable Plus without the software drawer, so we recommend you call us first to make sure the ROMs you want are in stock, and to set an appointment for installation.

That way, we can install and test your new ROMs the day we receive your software drawer, then ship your drawer back that same evening. Return shipping within the Continental U.S. via UPS Second-Day Air is free for all orders over \$200. Please add \$15 to your order if you want overnight return shipping.

(In most cases, if you set an appointment in advance and use overnight shipping both ways, you'll only be without your software drawer for less than two business days. We'll ship the manuals and other materials in advance by surface carrier so you'll have them by the time you receive back your software drawer.)

HOW TO ORDER ROMS

To order, use the postage-paid order form in the center of this issue. For even faster service—or if you have questions about any of our ROMs—give us a call.

OUR EXCLUSIVE DOUBLE GUARANTEE ON ROMS

60-DAY GUARANTEE OF SATISFACTION

If, within 60 days, you are dissatisfied with a ROM product for any reason, you may return it for a full refund.

2-YEAR GUARANTEE AGAINST DEFECTS:

If a ROM proves defective at any time within 2 years, we will replace it at no charge.

IMPORTANT INFORMATION ABOUT OUR ROMS

We offer two kinds of ROM chips. One kind we produce ourselves; these are offered as part of our "ROM Backup Packages" (see below). The other kind are manufactured by Hewlett-Packard; we call these simply "HP ROMs."

ROM Backup Packages

A ROM Backup Package includes both the disk version of a program and the ROM version—plus the standard User's Manual and additional instructions for installing and using the ROM. (In the chart, prices of products marked "PS" are for entire ROM Backup Package.)

According to the agreements we have with the original software vendors, our ROM version is considered a backup copy of the disk version. Unless you already own the disk version, we cannot sell you the ROM Backup by itself.

Please note:

1. If you purchased the disk version of a program from us, we have that in our records. If you purchased the disk version elsewhere, you will need to show us proof of purchase before we can sell you just the ROM Backup.
2. Prices for ROM Backups alone are as follows:

Best of DOS Tools	.....	\$129.
The Editor	.....	95.
Games (Chess+4)	.....	105.
HPDuette	.....	95.
HPrint	.....	95.
OutlinePlus	.....	95.
Shelp	.....	55.
SideWinder	.....	55.
Shelp + SideWinder	.....	95.
Sketch	.....	95.
Squish Plus	.....	135.
SuperROM	.....	49.
TermPlus	.....	95.
Turbo Pascal 3	.....	95.
Typing Whiz	.....	179.
Webster's Speller	.....	95.
WordPerfect	.....	295.
Writer's ROM	.....	170.
Writer's ROM II	.....	140.

3. It is important that you read and adhere to the licensing agreement that comes with the disk version of any software you buy, because the same agreement applies to the corresponding ROM Backup. In most cases, this means you can use only one version of the software at a time on only one computer system at a time. Remember, the ROM is a backup copy of the software, not an independent second copy.

HP ROMs

The HP ROMs that we sell do not include (or require) the corresponding disk versions. They are the same ROMs that HP sells, except ours are used—which turns out to be *better* than buying them new. Here's why:

Unlike other used products you can buy, there are no moving parts on a ROM, and nothing that can wear out. Because of this, our two-year guarantee against defects applies to used HP ROMs as well as to our own ROM Backups. (Two years is twice the guarantee against defects that Hewlett-Packard offers.)

Our used HP ROMs are also covered by our unique 60-day guarantee of satisfaction.

Best of all, our used HP ROMs are priced as much as 50% below retail. Look at the chart at the right and compare! (In the chart, "Retail price" of HP ROMs is HP's price new. "Subscriber price" is our price used.)

SOFTWARE AVAILABLE ON ROM

For product details, see individual ads elsewhere in this issue, in our catalog, or refer to articles in past issues. In this chart, "Type" refers to either HP (used HP ROM) or PS (Personalized Software ROM Backup Package -price includes both ROM and disk versions). **CALL FOR AVAILABILITY OF USED HP ROMS.**

Product	Part Number	Retail Price	Subscriber Price	Type	No. of chips	Notes
WORD PROCESSORS						
WordPerfect 5	WD11NK	\$919.00	\$595.00	PS	6	384K of files includes PlusPerfect, main WP program, help files, printer drivers, etc. Does not include required 300K wp.fil file, spelling checker, or thesaurus.
The Editor II	ED12NK	224.00	194.95	PS	1	The Editor version 1 is available as part of our SuperROM chip (see "Combined ROMs," below).
MemoMaker	-	-	-	HP	-	Comes on same chip as Time Manager (see "Combined ROMs" below.)
MSWord	MS20UR	394.00	199.00	HP	1	
MultiMate	MM20UR	520.00	295.00	HP	1	
WORD PROCESSING UTILITIES						
Format110	-	-	-	PS	-	Comes as part of SuperROM (see "Combined ROMs")
FormatPlus	FP13NK	174.95	164.95	PS	1	
HPrint	HP12NK	175.00	170.95	PS	1	
Mini PrinterTalk	-	-	-	PS	-	Comes as part of SuperROM (see "Combined ROMs")
OutlinePlus	OU11NK	175.00	165.00	PS	1	
RightWriter	RW11NK	205.00	199.00	PS	2	
Webster Speller	WB13NK	258.95	248.95	PS	2	
SPREADSHEETS AND UTILITIES						
Lotus 123,1A	LT12UR	495.00	295.00	HP	2	
Lotus 123,2.01	LT15UR	625.00	395.00 ²	HP	3	3rd ROM containing help doesn't have to be installed.
SideWinder	SW12NK	134.95	124.95	PS	1	Also available on a ROM with Shelp, and on our SuperROM chip (see "Combined ROMs" below).
DATABASE PROGRAMS						
Exec Card Manager	EC11UR	395.00	225.00	HP	1	(Lotus 1-2-3 can also be used as a database.)
COMMUNICATIONS						
PC2622	PC13UR	395.00	239.00	HP	1	VT100 and HP Terminal emulator.
Reflection	RF11UR	525.00	295.00	HP	1	Minor upgrade of PC2622
TermPlus	TE13NK	194.95	174.95	PS	1	Includes FormIBM, Jetctrl, and other great utilities.
PRODUCTIVITY BOOSTERS / GAMES						
Best of DOS Tools	DT12NK	179.00	168.95	PS	2	Selected utilities from DOS Tools ¹
FilePlus	FE14NK	164.95	154.95	PS	1	
Games (Chess + 4)	GA11NK	215.00	175.00	PS	2	Chess, Go-Moku, TigerFox, FastMind, Othello
HP Calculator	CL11NK	95.00	95.00	PS	1	From our 1987 Subscriber Disk
HP Duette	DU13NK	194.95	184.95	PS	1	Contains Portable Plus half of software
Shelp	SH12NK	110.00	104.95	PS	1	Includes note extraction program. Shelp also available on a ROM with SideWinder, and as part of SuperROM chip (see "Combined ROMs" below).
Time Manager				HP		Comes on same ROM as MemoMaker (see "combined ROMs" below).
Typing Whiz	TW12NK	144.95	134.95	PS	1	
Squish Plus	SQ11NK	264.00	234.95	PS	2	
GRAPHICS						
Sketch	SK12NK	175.00	170.95	PS	1	(Lotus 1-2-3 can also be used for graphics.)
PROGRAMMING LANGUAGES						
MSBasic	MS21UR	331.00	165.00	HP	1	This is not GWBASIC.
COMBINED ROMs						
MemoMaker/TimeMgr	MM21UR	245.00	119.00	HP	1	
Shelp,SideWinder	SH13NK	234.95	214.90	PS	1	Also includes SideWinder enhancement utility.
SuperROM (5 programs on one chip): The Editor, Format110, MiniPrinterTalk, Shelp, Sidewinder	SU11NK	474.00	299.00	PS	1	Mini PrinterTalk is the abbreviated version included on the PrinterTalk disk; it is functionally equivalent to Printertalk for most applications.
The Writer's ROM (5 programs on two chips): The Editor, FormatPlus, FilePlus, Webster's Speller, Shelp	WR11NK	599.00	499.00	PS	2	Includes PRNCONF which puts ThinkJet into EPSON mode, and TJCTRL, a popup program that controls ThinkJet from any program.
Writer's ROM Part II (2 programs on one chip): RightWriter, OutlinePlus	WR12NK	350.00	299.00	PS	1	

¹Utilities included in the Best of DOS Tools ROM backup Package are as follows. For program details, see catalog.
PACK DUMP TY CYPHER RENDIR WHEREIS TEE SDL FDATE LABEL DIRS TRANSLIT
CLEAN DIRALL ARCE MOVE OFF CHANGE ARC520 MOVEALL TRIM BEEP SQPC SM
VDL TMA TJETA FCOPY ASK PRNCONF WAIT FGREP XCOPY FDUMP COPYNEW
Note: ARC520 is shareware; the author normally requests a \$35 contribution. However, we've already paid your user fee.

²IMPORTANT: All HP ROM prices given in this chart (unless otherwise stated) are for used ROMs. Used HP ROMs (especially Lotus 2.01) are sometimes not in stock. Call to verify availability of used HP ROMs and pricing on new HP ROMs if used ROMs unavailable.

OUR COMPLETE HP110, PORTABLE PLUS PRICE LIST

Product	Part No.	Retail Price	Sub. Price	With Portable Purchase*
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* Items in this column are discounted further with a purchase of an HP110 or a like-new or refurbished Portable Plus.

HP110, PORTABLE PLUS COMPUTERS

Like-new 512K P.Plus ¹	PP36UC	\$2795	\$995	
Refurbished 512K P. Plus	PP16UC	2795	795	
Refurbished 128K P. Plus	PP12UC	2590	395	
Refurbished HP-110	PQ11UC	3000	495	
Like-new German Plus ¹	PP37UC	2795	995	
German localiz. ROM	GE31UR	150	99	(50)
Like-new Swiss/Fr. Plus ¹	PP34UC	2795	995	
French localiz. ROM	FR31UR	150	99	(50)
Like-new Swedish Plus ¹	PP40UC	2795	995	
Like-new English Plus ¹	PP31UC	2795	995	
Like-new Italian Plus ¹	PP38UC	2795	995	
Italian localiz. ROM	IT31UR	150	99	(50)

¹All Like-new Portable Pluses come in original packaging with new battery, new manual, and our 1 year guarantee.

SPECIAL HP110, PORTABLE PLUS BUNDLES

HP110, ThinkJet, HP9114	PP40UX	\$4300	\$795	
Like-new RAM Special ²	BU11UX	3816	1295	
Refurbished RAM Special ²	BU12UX	3816	1095	
Like-new ROM Special ³	BU13UX	4450	1595	
Refurbished ROM Special ³	BU14UX	4450	1395	
Like-new Terminal Spec. ⁴	BU15UX	4360	1395	
Used Terminal Special ⁴	BU16UX	4360	1195	
256K Terminal Special ⁴	BU17UX	4591	845	

²RAM SPECIAL: 512K Port. Plus, 128K RAM drawer, Shelp, Editor II, Websters, FormatPlus, FilePlus, As-Easy-As, GamesPlus

³ROM SPECIAL: 512K Portable Plus, 128K RAM drawer, ROM drawer, GamesPlus, and ROMs:

Editor II, Websters, FormatPlus, FilePlus, Shelp, As-Easy-As
⁴TERMINAL SPECIAL: 256K or 512K Portable Plus, 1200B int. modem, Reflection or PC2622, MemoMaker, Time Manager

PERIPHERALS

MODEMS

Used 1200 baud Internal	BM11UC	\$600	\$250	(167)
WorldPort Modem 1200	WM11NH	199	179	
WorldPort Modem 2400	WM12NH	359	319	(295)
WorldPort M. 2400/MNP	WM13NH	499	425	
WorldPort serial cable	WM14NM	30	20	
WP 1200 Upgrade kit	WM13NG	199	179	
WP Acoustic coupler	WM16NH	79	79	
HP92205D Acoust. cpler	AC11NC	195	135	

PRINTERS, PLOTTER (Refurbished)

HP-IL ThinkJet Printer	TJ11UC	\$495	\$199	(179)
ThinkJet (AC Powered)	TJ11UX	545	249	(229)
Serial ThinkJet Printer	TJ14UC	495	295	
DeskJet Printer, cable	DJ11UC	837	395	(395)
DeskJet Plus, cable	DJ12UC	995	450	
HP-IL 7470A Plotter	PL11UM	1095	595	
PaintJet	PA12UC	1395	CALL	
LaserJet 500 Plus	LA13UC	4200	CALL	
LaserJet II	LA14UC	2495	CALL	
LaserJet IID	LA12UC	3795	CALL	
LaserJet IIP	LA15UC	1495	CALL	

DISK DRIVES (refurbished)

HP9114A Disk Drive	DD11UC	\$795	\$199	(179)
HP9114B Disk Drive	DD12UC	795	249	(199)
HP9114B (AC Powered)	DJ11UX	845	299	(249)
15 Meg Hard Drive	HD11UC	2700	995	

(with HP-IB/HP-IL Interface, HP-IB, HP-IL cables)

MEMORY, SOFTWARE DRAWERS (Used, P.Plus)

1 Meg HP RAM Drawer	MM11NC	\$1275	\$995	
384K HP RAM Drawer	MM12UC	982	295	
256K HP RAM Drawer	MM19UC	709	225	(199)
128K HP RAM Drawer	MM13UC	436	150	(99)
128K HP Memory Card	MM14UC	273	125	(99)
HP ROM Software Draw.	SW11UR	195	99	(79)

ROM BURNING (Portable Plus)

ROM Burning kit	EP10NH	\$695	\$595	(495)
(ROM burner & eraser, cable, 2 128K EPROMs, software, manual)				
128K byte EPROM	EP11NR	69	59	(49)
(4) 128K byte EPROMs	EP12NX	276	199	(179)
128K PROM (no erase)	EP18NR	64	54	(44)
Four 128K PROMs (" ")	EP19NX	256	179	(159)
64K 27C512, EPROM	EP13NR	25	22	(19)
ROM burning software	EP14NS	250	195	
Custom 128K burning	EP15NE	150	135	
Custom burning consult.	EP16NE		75 per hour	

INTERFACE CARDS (refurbished)

HP-IL Card For IBM PC	IL11UC	\$195	\$119	(99)
New HP-IL Card For PC	HP17HM	195	159	
P.Plus Video Interface	V114UC	435	195	
P.Plus V.Intfc+Monitor	VM12UM	750	275	
Composite monitor	VM11UC	325	150	
HP-IL/HP-IB Interface	IL13UC	395	235	
HP-IL/Serial Interface	IL12UC	295	179	

INPUT DEVICES

Log. Mouse P.Plus System	MS15NM	\$219	\$179	
P.Plus Mouse Sftwre	MS11NS	70	60	
P.Plus Mouse Cable	MS13NM	30	20	
Numeric Keypad, P.Plus	TS11NM	139	135	

THE PORTABLE PAPER

(Subscribers Disk Only Available With Subscriptions)

1991 Subscript. & Disk	PPN1PS	\$55.00	(Free)	
All 1986-91 issues/disks	PL11PK	159.00		
All 1986-90 issues/disks	PL14PB	119.00		
Individual back issue	PP99PB	9.20		
PP Binder Vol.5	PB16NM	7.00		
PP Binder Vol.1-5	PB15NM	29.00		

SOFTWARE ON ROM (PORTABLE PLUS)

If the product number ends with "UR", it is a refurbished HP ROM. If it ends with "NK", it is a new Personalized Software disk plus ROM backup.

Product	Part No.	Retail Price	Sub. Price	W/PlusBackup	Purchase Price
Shelp, SdWndr	SH13NK	\$235	\$215	(139)	95*
SuperROM	SU11NK	474	299	(199)	49*

(Editor I, Format110, PrinterTalk, Shelp, SideWinder)

Communications

Advanced Mail	AD12UR	\$295	\$150	(99)	
PC2622	PC13UR	395	239	(99)	
Reflection	RF11UR	525	295	(139)	
TermPlus	TE13NK	195	175	(99)	95*

Graphics

Sketch	SK12NK	\$175	\$171		95*
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Productivity Boosters / Games

DOS Tools	DT12NK	\$179	\$169	129	
FilePlus	FE14NK	165	155	(99)	
GamesPlus	GA11NK	205	175	(159)	105*
HP Calculator	CL11NK	95	95		
HP Duette	DU13UR	195	185	(139)	95*
Shelp	SH12NK	110	105	55*	
Squish Plus	SQ11NK	264	235	(199)	135*
Typing Whiz	TW12NK	145	135	(99)	95*

Programming Languages

MSBasic	MS21UR	\$331	\$165	(99)	
Turbo Pascal 3	TP13NK	No longer published			95*

Spreadsheets and Database

As-Easy-As	AS11NK	\$215	\$195	(159)	115*
Exec. Card Mgr	EC11UR	395	225	(199)	
Lotus 123, 1A	LT14UR	495	249	(199)	
Lotus 123, 2.01	LT15UR	625	395		
SideWinder	SW12NK	135	125	(99)	

Word Processors

Editor II	ED12NK	\$195	\$175	(99)	95*
MMkr/TmMgr	MM21UR	245	119	(99)	
MSWord	MS20UR	394	199		
MultiMate	MM20UR	520	295	(199)	
WordPerfect 5.0	WD11NK	940	595	(495)	295*
Writer's ROM	WR11NK	599	499	(399)	170*
(Includes Editor II, Webster's, FormatPlus, FilePlus, Shelp)					
Writer's ROM II	WR12NK	350	299	(250)	140*
(Includes RightWriter and Outline Plus)					

Word Processing Utilities

FormatPlus	FP13NK	\$175	\$165	(99)	95*
HPrint	HP12NK	175	171	95*	
OutlinePlus	OU11NK	175	165	95*	
RightWriter	RW11NK	205	199	110*	
Webster Speller	WB13NK	259	249	(199)	179*

* You must own the disk version of the product in order to use prices in the "Backup Price" column.

SOFTWARE ON DISK

Communications

CompuServe starter kit	CM11NS	\$39.95	\$35.95		
Kermi	KE11NS	19.00	19.00		
Relay Gold (Plus)	RG11NS	295.00	279.00		
TermPlus	TE12NS	99.95	79.95	(49)	
Term110	TE11NS	99.95	79.95		
YTERM	YT11UC	135.00	49.95		

Database/Accounting Software

Condor 3	CR11NS	\$495.00	\$379.00	(299)	
Condor Jr	CR13NS	99.95	89.95		
Dac-Easy Accounting	DC11NS	150.00	129.00		
Used dBase II	DB11UC	550.00	295.00		

File Transfer

HPDuette for P.Plus	DU11NS	\$99.95	\$89.95		
Link110	LK12NS	90.00	85.95		
Link Plus	LK11NS	90.00	85.95		
ReadHP	RD11NS	79.95	69.95		

Graphics

Log. Mouse P.Plus System	MS15NM	219.00	179.95		
PrintMaster (P.Plus)	PR11NS	79.95	69.95		
Sketch	SK11NS	80.00	75.95		
Sketch Halfnote disk	SD11NS	9.50	9.50		

Learning Material for HP110, P.Plus

How to Use the HP					
Portables Video Tapes	VP11NM	\$150.00	\$119.00	(99)	

Productivity Boosting Utilities / Games

BacTools	BC11NS	\$49.95	\$39.95		
DOS Tools	DT11NS	44.95	39.95		
FilePlus	FE12NS	69.95	59.95	(49)	
GamesPlus	GA11NS	99.95	69.95	(49)	
Norton Utilities Adv.	NU12NS	150.00	129.00	(99)	
Norton Utilities	NU11NS	99.95	89.95	(79)	
Private File	PF11NS	39.95	34.95		

Shelp	SH11NS	55.00	49.95	(49)	
Squish Plus (P.Plus)	SQ11NS	129.00	99.95	(79)	
Tiger Fox	TF11NS	32.95	29.95		
Time Manager (HP110)	SB11NS	9.50	9.50	(Free)	
Typing Whiz	TW11NS	49.95	39.95		

Programming

Compiled BASIC (USED)	MS13UC	\$425.00	\$225.00		
FORTAN (USED)	FO12U	395.00	250.00		
MS BASIC (USED)	MS11UC	325.00	165.00		
MS GW BASIC (USED)	GW11UC	425.00	250.00		
Programmer's Tools (U)	PT11UC	325.00	175.00		
Turbo Pascal 5.5, P.Plus	TP52NX	219.00	175.00		
Upgrade for Plus, HP150	TP15NS	69.00	69.00		
(must own IBM PC Turbo 5.5, honor license)					
T.Pascal 3.0 Optimizer	TP17NS	125.00	119.00		

Project Management

Milestone	ML11NS	\$99.95	\$89.95		
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Spreadsheet and Statistics

101 Macros	MC11NS	\$69.95	\$62.95		
As-Easy-As	AS11NS	99.95	79.95	(59)	
Lotus 123, v2.01 / Symphony					
P.Plus Software Driver	LT14NS	69.95	59.95		
SideWinder and Utilities	SW13NS	79.95	69.95		
SideWinder	SW11NS	69.95	59.95	(49)	
Statistix 2.0	ST11NS	169.00	159.00		

Word Processors

The Editor II	ED11NS	\$99.95	\$79.95	(49)	
Editor Pack	FM16NK	259.00	195.00		
(Editor II, FormatPlus, Webster Speller)					
Editor II/Formatter	ED13NK	119.95	99.95		
OutlinePlus	OU11NS	89.95	69.95		
PlusPerfect	WD14NS	150.00	129.00	(99)	
VI (Unix-like editor)	VI11NS	195.00	169.00		
WordPerfect 5.0 P. Plus	WD17NS	645.00	395.00	(299)	
(Includes PlusPerfect)					

Word Processing Utilities

Word Processing Utilities				
Format110	FM12NS	\$39.95	\$35.95	
FormatPlus	FP11NS	79.95	69.95	(49)
Formatter	FM11NS	59.95	49.95	
HPrint	HP11NS	80.00	75.95	
MemoMaker Pack	FM14NX	159.90	125.00	
(Format Plus, Webster Spelling Checker)				
PrinterTalk	PT11NS	49.95	44.95	
PrinterTalk, Format110	PT12NS	89.90	59.95	(49)
RightWords Dict. Ext.	RW12NS	29.95	29.95	
RightWriter	RW11NS	95.00	89.00	(79)
Webster's Speller	WB11NS	79.95	69.95	(49)

NEW PRODUCTS

from Personalized Software

NEW ROMS

The Writer's ROM

All your word processing needs on two convenient ROM chips!

Save \$370!

The Writer's ROM includes the following programs:

- **The Editor II** – our easy-to-use ASCII word processor with Lotus-style menu system.
- **Webster's Spelling Checker** – 110,000 word dictionary, and it's fast!
- **FormatPlus** – Puts headers, footers, page numbers into your Editor II or MemoMaker documents. Acts as a "command center" for Writer's ROM programs.
- **FilePlus** – Lets you retrieve, copy, delete, view, rename, and back up files without typing a filename.
- **Shelp** – Pop-up calculator, notepad, keyboard macros, and system off.

All on TWO 128K ROM chips!

The Writer's ROM (disks and ROM Backup) -- WR11NK

Retail price: \$599 Subscriber price: \$499

Purchased separately, these programs occupy 6 ROMs and cost subscribers \$869. For more details about the programs on The Writer's ROM, see Vol.5, No.6, Pg.14) (*Limited time only: Call to discuss credit allowance if you already own disk or ROM versions of any of the programs.*)

Writer's ROM, Part II

Contains RightWriter, an excellent grammar checker that works nicely on the P.Plus with MemoMaker or the Editor; and Outline Plus, a new outlining program for the P.Plus. (*Deduct \$89 if you already own the P. Plus disk version of RightWriter.*)

RightWriter & OutlinePlus on disk plus Backup on 2 ROMs - WR12NK.
Retail: \$399 Subscriber: \$299

OutlinePlus

(See description in box below. Disk plus ROM Backup -- OU11NK.
Retail: \$175 Subscriber: \$165

RightWriter

Grammar checker, (*Deduct \$89 if you already own the Portable Plus disk version of RightWriter.*)

RightWriter for the P.Plus (disk plus Backup on 2 ROMs)-- RW11NK
Retail: \$205 Subscriber: \$199

Empowerer II for the HP 9114 Disk Drive or ThinkJet Printer

New improved design! – Now you can run your 9114 disk drive or Thinkjet printer from a standard wall socket!

We've sold hundreds of our original Empowerers to people who wanted to run their HP9114 disk drive from a standard wall socket. Our new model - the Empowerer II - is lighter, more attractive, and comes in two versions: one works with your 9114, the other with your Thinkjet printer. The Empowerer II has two components: a special AC adapter, and a component that plugs into the battery compartment of your 9114 or Thinkjet. (This component is actually a modified battery case with battery removed.) To use the Empowerer II, simply remove the battery from your disk drive or printer, insert the Empowerer's "battery-case" component, plug in the AC adapter, and you're in business! When you need battery power again, simply replace the battery as before. (*For more details about the Empowerer II, see The Portable Paper, Vol.5, No.6, Pg. 12. We will also sell the 9114 Drive and Thinkjet Printer already modified to run on AC power. See page 14 for more information.*) **SPECIAL DISCOUNTS:** ■ \$20 off if you send a battery case with your order. ■ \$30 off if you send an older model Empowerer with your order. ■ \$10 Gift Certificate for each additional battery case you send.

Empowerer II for the ThinkJet

Part # EM14NH-- Retail price: \$119 Subscriber: \$95

Empowerer II for the HP9114

Part # EM13NH-- Retail price: \$119 Subscriber: \$95

OutlinePlus

A powerful, flexible, and easy-to-use outlining program for the Portable Plus. Use it for outlining documents, organizing your ideas, scheduling, creating to-do lists, cataloging, listing inventory, developing computer programs, and much more! (*For more details about OutlinePlus, see The Portable Paper, Vol.5, No.6, Pg. 14. Also see "New ROMs" on this page.*)

OutlinePlus for the P. Plus OU11NS

Retail price: \$89.95 Subscriber price: \$69.95

Backpack Portable Floppy Drive

LS/12 and Portable Vectra users who need to read and write 5.25" disks (360K or 1.2mb) will appreciate the convenience of this 5 lb., external drive. It connects directly to the parallel port of your computer and allows you to daisy-chain your printer or other parallel device to the port in back of Backpack. (*See Vol.5, No.6, Pg.18 for more details.*)

Backpack 5.25" External Drive BP11HC

Retail price: \$349 Subscriber price: \$329

Portable to Mac Cable with instructions, (for more information see Vol.5, No.6, Pg.8).

LS/12, PORTABLE VECTRA PRICE LIST

Product	Part Num.	Retail Price	Sub. Price
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LS/12 SPECIFIC PRODUCTS

LS/12 COMPUTERS

Used LS/12, 20 Meg Drive	LS11UM	Call for pricing, avail.	
Used LS/12, 40 Meg Drive	LS12UM	Call for pricing, avail.	

LS/12 Memory

1 Meg EMS Memory	EM11NH	\$295	\$285
4 Meg EMS Memory	EM12NH	1195	1095

LS/12 Internal Modems

HPD1502a 2400 Modem	IM11HL	\$449	\$369
Datastar 5, 2400/MNP	DA11HL	599	539

LS/12 Drives

Weltec 5.25" Drive	WE11NH	\$349	\$299
LapTape tape backup	LA11NH	795	695

Additional LS/12-Specific Products

Expansion Chassis, Cable	EX11NH	\$599	\$549
Numeric Keypad	NU11NH	129	115
HPD1057A Battery	NB11HL	299	269
HPD1058A Recharger	BC11HL	109	109
HP Carrying Case	CC11HL	99	80
80287 math coprocessor	MA11HL	649	575

PORTABLE VECTRA CS SPECIFIC PRODUCTS

PORTABLE VECTRA CS COMPUTERS

New Portable Vectra CS 20	VE13HC	\$3595	\$1795
Used Portable Vectra CS 20	VE17UC	Call for pricing, avail.	
Used Portable Vectra CS	VE12UC	Call for pricing, avail.	

Internal Modems

HPD1003A 2400 Baud	VE16UC	Call for pricing, avail.	
HPD1002A 1200 Baud	MO11UC	Call for pricing, avail.	

Serial card and EMS Memory

Dual serial/EMS Card	AD11HC	Call for pricing, avail.	
1 Meg EMS memory	EM11HC	\$595	\$295

External Hard Disk

TravelDisks: hard disk, P. Vectra CS bus extender card, cable			
TD-10 (10 Meg) new	TD11NH	\$995	\$945
TD-10 (10 Meg) refurbished	TD12NH	650	595
TD-20 (20 Meg) new	TD13NH	1095	995
TD-20 (20 Meg) refurbished	TD14NH	775	725
TD-30 (30 Meg) new	TD15NH	1195	1095
TD-30 (30 Meg) refurbished	TD16NH	900	835
TD-40 (40 Meg) new	TD17NH	1295	1195
TD-40 (40 Meg) refurbished	TD18NH	1100	995
TD-100 (100 Meg) new	TD19NH	1895	1795
TD-100 (100 Meg) refurbished	TD20NH	1500	1395
TD-250 (250 Meg) new	TD21NH	3495	3195
TD-250 (250 Meg) refurbished	TD22NH	CALL	CALL
Extra P.Vectra Bus Extender	TD23NH	80	75
Extra cable	TD24NH	110	99
Extra IBM Bus Extender card	TD25NH	50	47

Other Vectra CS Products

HP-IL Adapter Card	HP16NM	\$245.00	\$235.00
HPD1007A Soft Case	CS12HC	Call for pricing, avail.	
HP69009 Battery	BA11HC	250.00	225.00

Monitors for Vectra CS (and LS/12)

Monochrome Monitor	VI12HC	129	119
CGA Monitor	MO12HC	399	299
EGA Monitor	MO13HC	599	479

THE PORTABLE PAPER

(Subscribers Disks Only Available With Subscriptions)

1991 Subscription & Disk	PPN1PS	\$55.00	
For Vectra CS, 1988-91 issues, disks	VE11PK	109.00	
For Vectra CS 1988-90 issues, disks	PP15PB	79.00	
For LS/12 1989-91 issues, disks	LS11PK	89.00	
For LS/12 1989-90 issues, disk	PP12PK	59.00	
Individual back issue	PP99PB	9.20	
PP Binder Vol.3	PB13NM	7.00	
PP Binder Vol.4	PB14NM	7.00	
PP Binder Vol.5	PB16NM	7.00	

Refurbished LS/12, P.VECTRA CS PRINTERS

New Diconix - parallel	DT11NH	\$519	\$399
New Diconix - serial	DT12NH	539	415
Serial HP2225D ThinkJet	TJ14UC	495	295
Parallel HP2225C ThinkJet	TJ11U1	495	295
DeskJet Printer, cable	DJ11UC	795	425
DeskJet Plus	DJ12UC	995	CALL
PaintJet	PA12UC	1395	CALL
LaserJet 500 Plus	LA13UC	4200	CALL
LaserJet IID	LA12UC	3795	CALL
Rugged Writer	RU11UC	1695	CALL

LS/12,

P.VECTRA CS PERIPHERALS

Portable Modems / FAX

WorldPort FAX/Modem 2496	WF11NH	\$699	\$599
WorldPort Modem 1200	WM11NH	199	179
WorldPort Modem 2400	WM12NH	359	319
WorldPort M. 2400/MNP	WM13NH	499	425
WorldPort serial cable	WM14NM	30	20
WP 1200 Upgrade kit	WM13NG	199	179
WP Acoustic coupler	WM16NH	79	79

External drives / tape backup

Backpack 5.25" Floppy Drive	BP11HC	\$349	\$329
Weltec Serial 20 MB Hard Disk	WE12NH	\$1099	\$899
Valitek Serial and Parallel Port Tape backup units			
60 Meg Valitek	VA11NH	1695	1495
160 Meg Valitek	VA12NH	2395	1995

Other LS/12, P.Vectra CS Peripherals

EtherNet Adapter	ET11NH	\$695	\$629
Logitech Mouse	MS14NM	119	99
Statpower PC100+ Inverter	ST11NH	179	169

LS/12,

PORTABLE VECTRA SOFTWARE

The Editor II	ED11NS	\$99.95	\$79.95
Condor 3 for IBM	CR11HM	495.00	379.00
LapLink	LA11NS	139.95	119.00
NoSquint II	NO11NS	49.95	45.95
Squish Plus	SQ12NS	99.95	89.95

CALL FOR CONSULTATION AND PRICING
ON OTHER IBM COMPATIBLE SOFTWARE PRODUCTS

LS/12, P.VECTRA ACCESSORIES

Printer Supplies

TJ plain paper cartridge	TJ15HC	\$10.95	\$10.95
TJ inkjet paper cartridge	TJ14HC	10.95	10.95
HP92261n inkjet 2500 z	TJ12HC	64.95	59.95
HP51630a inkjet 500 z	TJ13HC	19.95	19.95
DeskJet ink cartridge	CT11HC	19.95	19.95

Disks

10 3.5" disks and case	DS11NM	\$44.90	\$29.95
10 3.5" 1.44M disks, case	DS12NM	69.95	59.95

Cases

Targus leather system	TA11NM	\$199.95	\$179.00
Targus nylon system case	TA12NM	99.95	89.95

Cables

Standard Parallel Cable	PL11NM	\$29.95	\$24.95
P.Vectra 25-pin serial prn	SE12HC	\$29.95	\$24.95
9-pin AT serial printer cable	SE11HC	\$29.95	\$24.95

ADDITIONAL COMPUTERS

(CALL FOR INFORMATION AND PRICES)

REFURBISHED HP150 COMPUTERS, DRIVES, PERIPHERALS, ACCESSORIES, SOFTWARE:

- Free HP150 Catalog CAT150 0.00 0.00

TOSHIBA LAPTOPS (Call for prices)

Notebook PCs

- T1000** -- 80C88 4.77MHz 6.4 lb laptop with 512K RAM (expandable to 1.2MB) and a built-in 720K 3.5" floppy drive, CGA-compatible 80x25 LCD display with RGB/monochrome monitor port, 5 hour battery.
- T1000SE** -- 80C86 9.54MHz 5.9 lb laptop with 1MB RAM (expandable to 3MB), a built-in 1.44MB floppy drive, 80x25 LCD display, CGA compatible, 2 hour removable battery.
- T1000XE** -- 80C86 9.54MHz 6.2 lb laptop with 1MB or RAM (expandable to 3MB), internal 20MB hard drive (external disk drive optional), 80x25 LCD display, CGA compatible, 2 hour removable battery pack.
- T1200XE** -- 80C286 12MHz 7.2 lb laptop with 1MB RAM (expandable to 5MB), 20MB internal hard drive, built-in 1.44MB 3.5" disk drive, 80x25 LCD display, CGA compatible with CGA/RGB monitor port.

Battery-Powered PCs

- T1200HB** -- 80C86 9.54MHz 11.4 lb portable with 1MB RAM, 20MB internal hard drive, built-in 720K 3.5" disk drive, 80x25 LCD display, CGA compatible with RGB and monochrome monitor ports.
- T1600** -- 80C286 6/12MHz 12.9 lb portable with 1MB RAM (expandable to 5MB), 20MB or 40MB internal hard drives, built-in 1.44MB 3.5" disk drive, EGA quality LCD display with EGA color monitor port.
- T3100SX** -- 80386 16MHz 14.9 lb portable with 1MB RAM (expandable to 13MB), 40MB/80MB hard drive, built-in 1.44MB 3.5" disk drive, high-res. display, VGA compatible display system with VGA monitor port. Up to 3 hours battery life.

AC Powered PCs

- T3100e** -- 80286 6/12MHz 13.2 lb portable with 1MB RAM (expandable to 5MB), 40MB hard drive, 1.44MB, 3.5" disk drive, high-res. display, and a CGA/RGB color monitor port.
- T3200** -- 80286 6/12MHz 19 lb portable with 1MB RAM (expandable to 4MB), 40MB hard drive, 1.44MB 3.5" floppy drive, high-res. display, EGA/CGA color monitor port.
- T3200SX** -- 80386 16MHz 17 lb portable with 1MB RAM (expandable to 13MB), 40/120MB hard drive, 1.44MB 3.5" floppy drive, high-res. display, VGA monitor port.
- T5100** -- 80386 16MHz 14.6 lb portable with 2MB RAM (expandable to 4MB), 100 MB hard drive, 1.44MB 3.5" floppy drive, high-res. display, EGA/CGA monitor port,
- T5200** -- 80386 20MHz 18.7 lb portable with 2MB RAM (expandable to 14MB), 40MB or 100MB hard drives, 1.44MB 3.5" floppy drive, high-res. display, VGA monitor port.
- T8500 (desktop)** -- 80386 25MHz 22 lb with 2MB RAM (expandable to 14MB), 100MB-200MB hard drive, 1.44MB 3.5" floppy drive, VGA display adapter.

!! NEW !!

REFURBISHED HP LaserJets

LaserJet II
LaserJet IID LaserJet IIP

CALL TODAY FOR PRICE

(Vectra Views continued from page 19.)

Other New Products

Here is some information on new computers, printers, and peripherals we thought might be of interest to you.

PV You may order the products from the listed manufacturer or a local dealer.

LS/42 If you prefer, we will special order the product for you and take 10% off the retail price. Call us.

■ Canon BJ-10e Printer

This small, lightweight bubble-jet printer could be an excellent lightweight companion for the LS/12 or Vectra CS. The slim, grey-black 4-pound portable printer uses a 64-nozzle bubble-jet print head and snap-in ink cartridges that print over 4,000 pages per cartridge in high-quality mode (83 cps). The BJ-10e can print in both directions at up to 360 dpi and can emulate both the IBM Proprinter and the Canon BJ-130e. The printer has a 3K input buffer with an additional 34K reserved for fonts. The BJ-10e draws its power from an AC adapter or an optional battery (weight 4.6 lbs with battery pack).

ORDERING INFORMATION

The BJ-10e printer is a product of Canon USA, Inc., and retails for \$499 (print cartridge, \$25; optional battery pack, \$50). For more information contact Canon USA, Inc., Printer Division, One Canon Plaza, Lake Success, New York 11042. Phone: (516) 488-6700.

■ The Parallel Port Multiplexor

This small hardware device can be used to add a second parallel port to any PC-compatible computer. It is designed with a DB25 connector at one end that connects to the parallel port on the back of the LS/12 or Vectra CS. Two DB25 connectors at the other end provide two parallel ports for the computer. The Multiplexor includes a 1K TSR program that controls the flow of data going to the two Parallel Ports on the Multiplexor.

ORDERING INFORMATION

The Parallel Port Multiplexor is a product of Xircom, Inc. and should be available in the early fall of 1990. It will retail for \$95. For more information contact Xircom, Inc., 22231 Mulholland Hwy, Suite 114, Woodland Hills, California 91364. Phone: (818) 884-8755.

■ Statpower Portable Battery and Power Inverters

■ StatPower's PC110+ Pocket Power Inverter lets you run your HP Portable off of any 12 volt source (car, boat, aircraft, etc.). The Pocket Power Inverter converts 12 volt DC to 115 volt AC. You connect the HP Portable's AC adapter to it and you can operate the complete system, including the external disk drive. The Pocket Power Inverter produces 200 watts peak and 100 watts constant power. It also features a low battery alarm and automatic low voltage shutdown to protect your 12 volt DC source.

■ The Statpack-8 Battery Pack is also manufactured by

StatPower. Statpack-8 is a portable battery used in conjunction with the Pocket Power Inverter. Statpack-8 weighs 8.75 lbs and has a capacity of about 8 amp hours. Statpack-8 recharges overnight from any 115 Volt source and comes in a water-resistant case.

■ The PROwatt 600 is a heavy-duty version of the Pocket Power Inverter that can provide enough power for a complete mobile office (a computer, printer, and fax can be operated simultaneously). The PROwatt 600 is about the size of a car stereo amplifier and weighs 5 lbs. It is connected directly to the 12 volt battery (not through the cigarette lighter like the Pocket Power Inverter). StatPower recommends using it with deep-cycle marine or golf cart batteries.

ORDERING INFORMATION

All three products are from Statpower Technologies Corporation. The Pocket Power Inverter retails for \$179.95; the Statpack-8 for \$169.95; the PROwatt 600 for \$449.00.

The Pocket Power Inverter is available to subscribers Through Personalized Software for \$169 (Part: ST11NH). See center spread and call (800) 373-6114.

For more information contact Statpower Technologies Corp., 7012 Lougheed Hwy., Burnaby, B.C. V5A 1W2 CANADA. Phone: (604) 420-1585.

■ New Light-Weight Printer Cable

If you're tired of carrying around bulky, hard-to-store printer cables with your LS/12 or Portable Vectra CS, you might want to get Rike Engineering's Portable Computer Printer Cable. The 36" cable has two small 25-pin connectors attached to a flat ribbon cable. Fold the cable up and it takes up no more room than a bar of soap.

ORDERING INFORMATION

The Portable Computer Printer Cable is a product of Rike Engineering and retails for \$27.95. For more information contact Rike Engineering, 12222 Dowing Street, Garden Grove, California 92640. Phone: (714) 971-7301.

■ The Serial Box

This interface between conventional computer keyboards and portables allows you to connect your full-sized keyboard to your LS/12 or Portable Vectra CS. The Serial Box accepts the connector of any standard keyboard and interfaces to the computer's serial port.

ORDERING INFORMATION

The Serial Box, a product of Genovation, Inc., retails for \$99.95. For more information contact Genovation, Inc., 17741 Mitchell, North, Irvine, California 92714. Phone: (714) 833-3355.

■ Stowaway 2400 Modem

The Stowaway 2400 is a small, Hayes-compatible line-powered modem that connects to the serial port of the LS/12 or Vectra CS. It gets all the power it needs from the serial port and the telephone line it is attached to and needs no batteries or AC adapter. It is a little larger than a standard 25-pin adapter but weighs less. It uses the

industry standard AT command set including the latest extension. Stowaway 2400 also has an internal non-volatile memory for saving modem configuration and 4 phone #s.

ORDERING INFORMATION

The Stowaway 2400 modem is a product of Vocal Technologies, Ltd., and retails for \$295. For more information please contact: Vocal Technologies, Ltd. 3032 Scott Boulevard, Santa Clara, CA 95054. Phone: 408-980- 5181, FAX: 408- 980-8709.

■ *DataCell*

DataCell plugs into the connection between the cellular telephone handset and the cellular telephone base. The Computer or fax plug into DataCell's standard telephone jack. DataCell provides a continuous connection for transmission to remote computers and fax machines. It protects important transmissions from background noise. And it helps to keep cellular telephone bills low by running up to 30 times faster than older acoustic couplers.

ORDERING INFORMATION

DataCell is a product of Zirco and retails for \$299.95. For more information contact Zirco, 10900 W. 44th Avenue, Wheat Ridge, Colorado 80033. Phone: (303) 421-2013.

■ *International Telephone Converters*

Foreign telephone line plugs do not use the same RJ-11 connector that is popular throughout North America. Almost every country around the world has its own unique telephone connectors. International Telephone Converters have been developed for 7 countries so far: Germany, Australia, France, Italy, South Africa, Finland, and the U.K.

ORDERING INFORMATION

The International Telephone Converter is a product of High-Tech Resources. Each converter retails for \$14.95 (specify country when ordering). For more information contact High-Tech Resources, P.O. Box 1400, Ellsworth, Maine 04605. Phone: (800) 422-2832 or (207) 667- 6300.



New Versions of Excellent Software

PV By Richard Hall



One of the perks of writing a newsletter is that software publishers send us copies of their software for review. What follows is a summary of some of the best software we have received.

Someone at Personalized Software uses each of these products. In addition all of these products have received strong ratings from independent sources. We recommend every product in this discussion. You may order the products from the listed manufacturer or local dealer.

If you prefer, we will special order the product for you and take 10% off the retail price. Call us.

■ *No-Squint II*

We have reviewed No-Squint before (Vol.4, No.4, Pg.24).

No-Squint was easy to install, occupied 1.4K of RAM, and made the cursor on both the LS/12 and the Vectra CS easier to see. No-Squint II is even easier to use than the original version. An installation program automatically copies NOSQUINT.COM to your hard disk and modifies your AUTOEXEC.BAT file. The other major improvement is that you can now make your cursor a solid, non-blinking block. No-Squint II enhances the cursor in WordPerfect 4.2, 5.0, and 5.1 as well as MS-Works; Lotus; dBase; and most other programs. However, it will not enhance the cursor in MS-Word, or in graphics programs such as MS-Windows and Tandy DESKMATE III.

ORDERING INFORMATION

No-Squint II is a product of SkiSoft Publishing Corporation and retails for \$49.95. Subscribers can purchase NoSquint II through Personalized Software for \$45.95 (Part: NO11NS). See ad on page 27 and (800) 373-6114.

■ *Norton Utilities 5.0*

Norton Utilities is the standard by which all other utilities software packages are measured. Included in this new version are utility programs for preventative maintenance; hard disk low level formatting; disk interleave optimizing; spreadsheet & database file fixing; data repair and recovery; data security; network compatibility; system information & report generation; and user-customizable interfaces.

The new version of the Norton Disk Doctor is faster and more expert at repairing trashed File Allocation Tables and directories. The old Quick Unerase program is now a flexible toolkit that allows either automatic recovery or painstaking reconstruction. A new security program creates files seen by DOS as phantom drives, and encrypts any files that you write to those drives. The old text-search program is folded into the file finder, which now saves you the trouble of looking at all the search "hits" in one file when you know you want to jump to the next file.

There are some minor cosmetic flaws in this first release of Norton Utilities 5.0, and some long-time users find the huge array of features excessive compared to "leaner and meaner" versions, but the new Norton Utilities is still the best utilities package available.

ORDERING INFORMATION

The Norton Utilities 5.0 is a product of Symantec Corporation and retails for \$179 (\$49 for upgrade from version 4.5). For more information contact Symantec Corp., 10201 Torre Ave., Cupertino, CA 95014-2132. Phone: (408) 253-9600.

■ *MTEZ -- Cellular and MNP Communications Software*

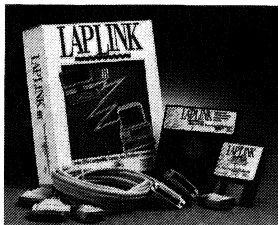
MTEZ is a full-featured communications program that can be enhanced with a variety of add-on modules. The base program includes logical area codes, a feature that allows business travelers to use the same software phone directory no matter which area code they may happen to be in. MTEZ's Cellular Add-On module adds support for operation over cellular telephone and other mobile/fixed radio networks. MTEZ, with either the MNP or Cellular Add-On Module, gives MNP error correction and data compression to a portables internal modem, increasing data throughput and error-free data transmission.

NINE ways to make your LS/12 Vectra or Portable Vectra CS more productive!

Transfer your files to another PC without hassle!

Highly rated **LapLink** software offers high-speed file transfer between your Vectra and another IBM PC compatible using **LapLink's** special cable. Versatile (works with parallel and serial ports) and easy to use (simple manual or automatic file tagging).

LapLink for PV, LS/12 la11ns
Retail: \$139; Subscriber: \$119



Access any Ethernet network with your Vectra!

Xircom Pocket Ethernet Adapter attaches to your Vectra (or any PC compatible) parallel printer port. It lets you connect to any Ethernet LAN, supporting Novell NetWare versions 2.0a and higher. It's 5 oz: the size of an audiocassette case.

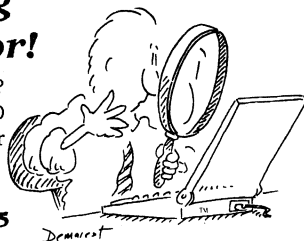
Ethernet Adapter, LS/12,PV et11nh
Retail: \$695; Subscriber: \$629



No more squinting to find your cursor!

Why search for a faint underline? Make Vectra cursor BIG and BOLD with **NoSquint II** and see the cursor clearly without strain.

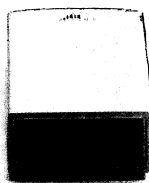
NoSquint II PV, LS/12 no11ns
Retail: \$49.95; Subscriber: \$45.95



Back up your LS/12 hard disk files to tape!

Tallgrass Technologies top-quality tape backup unit backs up LS/12 #20 or 40 Meg hard disk. Connects via LS/12 floppy disk connector in back. HP lab tested and approved.

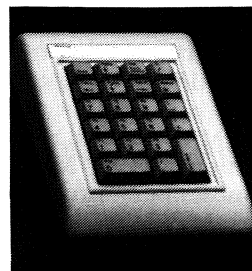
LapTape Backup Unit, LS/12 la11nh
Retail: \$795; Subscriber: \$695



Fast numeric entry for your LS/12!

The **Zenith Numeric Keypad** plugs into the right side of your LS/12. Calculator-style numeric keypad simplifies spreadsheet and database numeric entry tasks.

Numeric Keypad, LS/12 nu11nh
Retail: \$129; Subscriber: \$115



Recharge your Vectra while driving!

Plug your Vectra recharger into the 4.5" x 3.5" x 1.3", 1 lb, **PC100+ StatPower Pocket Power Inverter**. Recharge your Vectra battery by connecting the PC100+ to your car's cigarette lighter. The PC100+ provides instant 115V power from any 12V source.

StatPower PC100+ PV, LS/12 st11nh
Retail: \$179; Subscriber: \$169



Fax your files anywhere, anytime!

Now you can have both a 9600 bps Group III facsimile and a full-featured 2400 bps modem in one completely portable, pocket-sized unit! Share the **WorldPort 2496** among different PC's, or use it just for your work and travels. Connects to Vectra serial port and can operate from its own battery or from AC power.

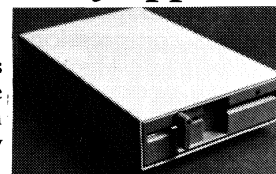
WorldPort 2496 PV,LS/12 wf11nh
Retail: \$699; Subscriber: \$599



Access files from 5.25" floppies using your LS/12

Weltech 5.25" disk drive plugs right into the LS/12 external drive port in back of LS/12. Can read from and write to 360K and 1.2M floppy disks.

Weltech 5.25" drive LS/12 we11nh
Retail: \$349. Subscriber: \$299



External 5.25" drive connects to parallel port without losing port

The **Backpack** floppy disk drive connects to the LS/12's or Portable Vectra CS's parallel port, giving you access to 5.25" diskettes. Can read/write to 360K or 1.2M floppy disks. Extra parallel port on drive lets you connect printer to it.

Backpack 5.25" External Drive PV, LS/12 BP11HC
Retail: \$349; Subscriber: \$329

ORDERING INFORMATION

MTEZ is a product of MagicSoft, Inc. and retails for \$50 (The MNP Add-On is an additional \$29, Cellular Add-On an additional \$49). MTEZ with the MNP Add-On is available to subscribers through Personalized Computing for \$74.95 (Part: MT11AS). See center spread price list and call (800) 373-6114.

PV
LS
7/12

■ *GrandView 2.0*

GrandView is billed as a "planning, writing and information management" program. GrandView allows you to list, organize, and prioritize tasks; plan and track the information you need to conduct meetings; write reports and proposals; manage projects and track progress. Its grouping and crossreferencing capability help you keep track of details that can otherwise fall through the cracks. Word processing capabilities allow you to create full-length reports and proposals from information already contained in GrandView.

Hal Goldstein, publisher and editor of *The Portable Paper*, is a great fan of GrandView. He uses the advanced outlining features to plan all his work. Hal creates his massive to-do / project-in-progress list within Grandview's outline format. Both a date and an employee name are assigned for each task in a project (which is actually a line in the outline). Hal can then pop up a calendar and look what tasks from various projects are scheduled for the day. Alternatively, he can list project tasks for each employee.

ORDERING INFORMATION

GrandView 2.0 is a product of Symantec Corporation and retails for \$295 (individuals with the previous version can upgrade to 2.0 for \$49). For more information contact Symantec Corp., 10201 Torre Ave., Cupertino, CA 95014-2132. Phone: (800) 441-7234.

■ *ARC Plus*

This is the latest release of the once (and future?) king of file compression programs. ARC Plus (Arc, version 7.0) comes with a Windows-like pull-down menu, a "pick & tag" file for addition and extraction from archive, multi-volume backup support that allows full or incremental backup, self-extraction, and more. System Enhancement Associates (SEA), developers of ARC 7.0, is promoting it as having "the tightest compression in the industry." SEA is presently involved in a vigorous marketing campaign, trying to win back some of the territory lost to PKZIP, LHARC, Squish Plus, and other popular file compression programs.

ORDERING INFORMATION

ARC 7.0 is a product of System Enhancement Associates and retails for \$89.95. At the time of publication, SEA was offering a special Trial Offer price of \$49.95. For more information contact System Enhancement Associates, 925 Clifton Avenue, Clifton, NJ 07013. Call: (201) 473-5153.

■ *Magellan*

Lotus calls it a "powerful data exploration tool." Magellan works within a window-like environment and lets you examine the contents of any file as it appears in the application in which it was created (i.e. with Magellan's WordPerfect "Viewer" you'll see the WordPerfect document as it appears in WordPerfect, not as ASCII text with control

characters all over the place). Magellan can locate words, related ideas from files created in different applications and gather files from across your entire hard disk. Magellan has built-in file compression capability and can view the contents of files it compresses. Magellan lets you launch directly into the appropriate application with a file already loaded. Magellan's macro capability allows you to do repetitive tasks quickly, and Magellan lets you customize the user interface to suit your needs.

ORDERING INFORMATION

Magellan is a product of Lotus Development Corporation and retails for \$139. (Upgrade from previous version is \$39.) For more information contact Lotus Development Corp., 55 Cambridge Parkway, Cambridge, MA 02142. Phone: (800) 343-5414.

■ *Alpha Four*

Alpha Four is a relational database designed to allow non-programmers to design their own database applications, complete with custom menus and help screens. In its May 14, 1990 review of user-programmable databases, PC Week rated Alpha 4 best of the six programs it reviewed. To quote PC Week, "Alpha Four comes with the best combination of relational features, design aids, and query and report flexibility... The creation of database applications is enhanced by the comprehensiveness and clarity of the program's menu sets, as well as by the package's Application Outliner, which sets up a graphical representation of an application and then walks the developer through each step." The package includes a text editor and a flexible report generator that comes with a what-you-see-is-what-you-get screen-painting function for report layout design. Alpha Four's file format is compatible with that of dBASE III Plus (no file conversion or translation is necessary). Further, Alpha Four can import and export in Lotus 123, Symphony, pfs:File, DIF, SYLK, ASCII delimited and tabular files, and can export files directly to WordPerfect and MultiMate.

ORDERING INFORMATION

Alpha Four retails for \$549. It is a product of Alpha Software Corporation, One North Avenue, Burlington, MA 01803. Phone: (617) 229-2924

■ *Arclist*

Arclist is a menu-driven mailing list management program with a virtually unlimited capacity (dependent upon the size of your storage hardware). Arclist contains the following list-management functions:

- Automatic duplicate and near-duplicate recognition;
- Postage-saving presorting and required bundling;
- Easy data importing and exporting of ASCII & dBase files;
- Versatile label design and printing with postal bar code feature;
- Document section with word processing capability;
- Customized list reports;
- Context-sensitive help screens;
- Complete data security;
- Nth Sampling function.

Erased your files? Get them back with The Norton Utilities!

HOW TO RESTORE DELETED FILES

It happens to the best of us. One slip of a finger and a whole week's worth of text or data is past history. *But not if you have THE NORTON UTILITIES!*

Just type **qu** (for quick unerase), give the first letter of the name of the file you erased, and *the file gets restored*. Miraculous as it sounds, in many cases that's all there is to it!

HERE'S HOW IT WORKS

How can a deleted file get unerased? Simple. The file isn't really deleted in the first place. When you delete a file, all that actually gets erased is part of the file's directory entry. (That's why it only takes an instant to delete an entire file.) Without a directory entry, DOS can't find the file, but THE NORTON UTILITIES can.

Now, what about those cases where you can't possibly recover a file because you've already partially overwritten it with other files? Surely THE NORTON UTILITIES can't help you then?

VERSION 4.0 OR ADVANCED EDITION —WHICH ONE SHOULD YOU BUY?

If you have an HP110, The Advanced Edition does not work. If you have a Portable Plus or HP150, The Advanced Edition of The Norton Utilities includes all of Version 4.0, plus many additional features. Among these are:

- 1. Speed Disk:** Packs the files on a floppy, electronic, or hard disk more efficiently. This reduces disk head wear and significantly reduces the time it takes to save or retrieve a file.
- 2. Advanced "NU" Program:** Undeletes blocks of text from disks that have become "corrupted" (unreadable by DOS). Also lets you access and modify the DOS directory and F.A.T. table.
- 3. Format/recover:** Restores all the files on a hard disk if you have accidentally reformatted it. (Note: this feature does not work on the HP150 or Portable Plus.)

Our recommendation: If you have a hard disk, or want to be able to manipulate directories, or need to access ASCII data from non-HP formatted disks, use the Advanced Edition.

Wrong—they can! THE NORTON UTILITIES won't recover the entire file, of course, but they *can* help you restore the portions of the file that still remain on the disk.

It's done with a powerful utility called **nu** that lets you display, change, and capture to a file any information on any disk. In complex cases you may need to

"Indispensible."
—PC Magazine

"You'll bless this disk."
—Peter McWilliams
(The Personal Computer Book)

"Don't compute without it."
—The New York Times

do some detective work, but **nu** will help you find whatever remains on the disk, thereby saving you from countless hours of retyping lost data.

POWERFUL FILE MANAGEMENT COMMANDS

In my opinion, *the ability to recover lost files alone makes THE NORTON UTILITIES well worth the price*. But there's even more to the package: THE NORTON UTILITIES are also an excellent *disk management system*. Here are some examples of what you can do:

Let's say you want to sort directories and files physically on disk—either by name, extension, size, date, time, or by any combination of these. Just use the **ds** (disk sort) command. I use this one to sort my electronic disk files by size all the time. Then when I display the directory, the larger files come at the end of the list, and I can see at a glance which ones to move elsewhere to free up any needed amount of disk space.

Or let's say you remember putting the phrase "a penny saved is a penny earned" into a text file on your floppy or hard disk but you can't remember which file it was—or even which directory. How to find it? *No problem*. Just type **ts** (for text search), specify the phrase, and the program will display every occurrence of the phrase, identifying each occurrence by directory and file.

Or let's say you can't remember which subdirectory you put a given file into. Instead of hunting for the file manually,

"THE NORTON UTILITIES are among the most helpful utilities I've run across. I use them myself every day, and in my opinion, they're a must. Here's why."

*Hal Goldstein, Publisher
The Portable Paper*

just type **ff** (find file) and specify the name of the file and the directories to search through. The program does the rest.

Other useful features include the **fa** command, which lets you change file attributes (for example, to convert HP150 read-only files into erasable files), and the **fs** command, which tells you the total file size of a group of files (I often use it to find out the total disk space occupied by my Lotus worksheet "WKS" files or by all my text files from a given project).

CUSTOMIZED TO YOUR COMPUTER

Because of their great helpfulness and ease of use, THE NORTON UTILITIES are a best-seller in the IBM PC market. Personalized Software is authorized to distribute them on 3½" disk for users of the HP150, HP110 and Portable Plus. (All it takes is a few keystrokes to customize THE NORTON UTILITIES to your machine; just follow the simple customization instructions included on the disk.) Also included in our package are the standard 5¼" disk sold by Peter Norton for IBM PCs.

THE NORTON UTILITIES are a time-saver for you and a life-saver for your data. Use them just once and you'll wonder how you ever did without them. Order your copy at no risk today.



**THE NORTON
UTILITIES**
DATA RECOVERY
DISK MANAGEMENT

THE NORTON UTILITIES 4.0 . . \$99.95
Portable Paper Subscriber Price . . . \$89.95
PRODUCT NO. NU1NS

**THE NORTON UTILITIES
ADVANCED EDITION \$150.00**
(includes Version 4.0)
Portable Paper Subscriber Price . . \$129.00
PRODUCT NO. NU12NS

RECOMMENDED FOR:			
HP110 Portable	●	Portable Vectra	●
Portable Plus	●	HP150	●
IBM PC and compatibles			●

We use Arclist to make life easier for the Personalized Software staff who mail you *The Portable Paper*.

ORDERING INFORMATION

PV
LS/12

Arclist is a product of Group 1 Software and retails for \$695. For more information contact Group 1 Software, Washington Capital Office Park, 6404 Ivy Lane, Suite 500, Greenbelt, MD 20770-1400. Phone: (800) 368-5806 or (301) 982-2000.

■ Act

Act is a "business contact manager...that handles all the details involved with taking care of your customers, clients, and prospects." Act is a highly-specialized database program that maintains a 96-field data file for every client you have. A built-in full-featured word processor and mail merge function make correspondence easy. Act prints pre-defined ticklers, expense reports, to-do lists, and calendars.

ORDERING INFORMATION

Act retails for \$395. It is a product of Contact Software International, Inc., 1625 W. Crosby Road, Suite 132, Carrollton, TX 75006. Phone: (214) 418-1866.

■ pcANYWHERE IV

110

Communications software that lets you connect your LS/12 or Portable Vectra CS to your home or office PC-compatible via telephone and remotely run your PC. Simply call your office PC using your external or internal modem (or connect directly to the PC using the LapLink serial cable) and run pcANYWHERE. Except for the fact that you are using the HP Portable keyboard and screen, it's just as though you were in the office using your PC! You can run programs on your PC, print to your office PC printer, or access files from any of your PC's disk drives.

pcANYWHERE also lets you transfer files back and forth between your HP Portable and PC with ease. pcANYWHERE IV features a new user interface which provides easy access to familiar pcANYWHERE functionality and incorporates a new point and select menu that displays files available for transfer in either direction between host and remote users. This new version supports enhanced data compression, XMODEM file transfer protocol, and background file transfer.

ORDERING INFORMATION

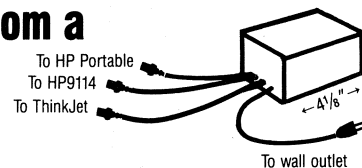
pcANYWHERE IV is a product of Dynamic Microprocessor Associates, Inc. and retails for \$179. Those individuals who purchased pcANYWHERE III after April 1, 1990 may upgrade for \$10 through DMA.

pcANYWHERE IV is available to subscribers through Personalized Software for \$159 (Part: PC12AS). Call (800) 373-6114.

■ FormTool Gold

The best-selling forms package in the world, FormTool Gold lets you draw lines of any weight, boxes of any size,

Power your Portable, ThinkJet, and HP9114 from a single wall outlet.



Can't plug your Portable, ThinkJet, HP9114, and HP hand-held into the same wall outlet because the recharger cubes are too big? Here's the solution:

The Power Cube/Recharger from Personalized Software.

The Power Cube has four power cords. Three are HP cords that plug into your HP Portable, ThinkJet, HP9114 disk drive(s), or HP hand-held (HP41, 71, 75, series 80, etc.).

The fourth is a conventional AC cord that plugs into the wall and powers the other three.

Get rid of that tangle of extension cords, power strips, or whatever else you've been putting up with.

Order a Power Cube/Recharger today.

Power Cube/Recharger \$89.95
\$79.95 for Portable Paper subscribers.

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grids of any complexity -- with just a few keystrokes. It displays the results on screen and allows you to zoom in on any portion of the form or zoom out to a full-page view of the form. If the form isn't quite right, you can modify it and re-draw it to meet your exact specifications. FormTool contains a forms-oriented word processor that allows you to move quickly through the form, inserting captions, instructions, word-wrapped text and special symbols, logos, and characters. You can choose from different type styles and sizes. FormTool Gold contains an all-new Forms Manager that helps you organize, retrieve, and archive forms.

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FormTool Gold is a product of BLOC Publishing and retails for \$99.95. For more information contact BLOC Publishing, 800 SW 37th Avenue, Suite 765, Coral Gables, Florida 33134. Phone: (800) 677- 2562 or (305) 445-0903.

Vectra Views Column May Be Intermittent in 1991

PV
LS/12

We will continue to publish the Vectra Views in support of the LS/12 and Portable Vectra CS in 1991 as relevant articles come our way. Articles will concern idiosyncrocies and tips about the LS/12 or Portable Vectra, support information about these two computers from HP, and product information especially suited for the LS/12 or Portable Vectra.

However, the 1991 issues will continue to emphasize the HP110 and Portable Plus since that is where most of our readership's interest lies. If no relevant material comes our way, we may elect not to run this column in one or more 1991 issues.

THE SAVVY USER

By Thomas R. Page

A GREAT ISSUE

My Portable Paper arrived today, about two weeks late. It was worth the waiting since it was a most interesting issue. I found David Hughes's column particularly interesting. I have long wanted a PC-like "modes" command for the Plus. I wish I could help him with the memory locations but the kind of hacking he has done looking for them far exceeds my skill.

I was happy to hear from Ed Keefe that AsEasyAs is a better program than I thought it was. I will certainly take a look at the later version. Having a manual may help too. "On line" help is OK, but it's seldom as complete as "on knee" help. I used 123 for four years without using its "on line" help. If I can't remember how to format an equation I now try the help key first, but for detailed help the book can't be beat.

I am intrigued by Michael Felsenstein's problem with his Portable Plus advancing the paper when he starts printing. I have never had this problem with my Plus and I am using the same ThinkJet printer I used with my 110. If he is using 123 perhaps the spreadsheets he used on the 110 were set to print Unformatted and the spreadsheet he is using on the Plus is set to print Formatted. The formatted print option throws a header line and a top margin before printing. There are some differences in the way Lotus 123, release 1A and release 2.01 print. I think 1A got it right, but I know the wizard's at Lotus must think they corrected some bugs in the 1A print routine. I thought they were features (as the story goes, if you find a bug in your program, document it and call it a feature). Perhaps the bugs in 1A were not properly documented.

Another possibility is that his program is sending a formfeed to the printer and the paper is not aligned, thus it advances a few lines. Perhaps he is going through PAM to load Printer Talk or some other printing utility. If there was a TSR type program like TJCTRL (the pop-up ThinkJet control utility on the 1990 Subscribers Disk) loaded, a trip though PAM would cause the computer to reboot and send a reset to the printer. Rebooting can happen so fast that it is not noticed.

Mike Mooney's letter about his long struggle learning to use HPrint with the DeskJet printer reminds me of another computer truism: "To learn to use a printer, kill a tree."

The feedback on the future direction of Personalized Software was very good. I will now put in my two cents worth. As much as I would like to see a really great computer built into the HP Portable box, there are far too many manufacturers with too much skill and advertising clout to make this a really viable option. We may never see another computer system designed from the bottom up to be a portable unless one of those pocket calculator/calendar devices grows up into a computer. The demand

to squeeze desktop machines into portable boxes is just too great. It would be really smart for some manufacturer to find out what those of us who have used portables longer than most anyone else think about portable operations, but don't hold your breath waiting for them to ask—they aren't interested.

I think those people suggesting the Portable Paper broaden its scope to include other portables are correct. I would suggest that a systems approach to portable computing be followed. The general idea would be to identify good, efficient products and programs and then tailor them for effective portable use.

There is opportunity to publish some portable software. The Editor (Gilbert's Text Editor) is a fine product that already runs on compatibles. David Hughes's TermPlus program is an excellent candidate for porting to PC compatibles. How about programs to make compatible portables more like HP Portables? Function key templates are obscene in an office environment and even worse on portables. I will sure miss the HP style f-keys whenever I abandon my Plus for a compatible.

IT'S A MATTER OF FORMAT

I have worked over 20 years for the same company and during that period the corporate stationery including the interoffice memo has changed four or five times. If the new form looked better and worked better, no one mourned the passing of the old formats. Recently a format change occurred without official sanction. Every employee who used a computer with a tractor feed printer figured out a blank paper format for interoffice memos. Placement of items on the format generally followed that of the current interoffice letterhead or some reasonably organized standard letter format. The tedious and time consuming tasks of removing and reloading the printer's paper and the impossible task of aligning a preprinted form in the printer were avoided at a significant savings in man hours without any coercion from management.

In 1984 one of my projects was to translate my Company's interoffice memo form to my new HP110 and ThinkJet printer. Getting the required information on a blank form was no trouble but the single type font just did not have the class of the letterhead form with its logo and three type fonts. When I switched from MemoMaker to The Editor (Ed Gilbert's Text Editor) and obtained the ability to imbed printer commands in the text of my memos, I inserted printer commands into my letterhead form to select fonts more consistent with those used on the official stationery. My ThinkJet fonts did not have the style and size of fonts from the print shop and there was no logo, but I achieved the look of the official form. The printer commands make the letterhead look weird when viewed with The Editor. Since there is nothing to add or edit in these first few lines of the memo, they are simply ignored when editing a memo.

Our company's new interoffice memo form solves the logo problem. It does not include a logo. Although it incorporates different fonts, it appears to be designed for a LaserJet printer and why not? LJs are ubiquitous. Besides, its easy-to-do fancy formats work with WordPerfect, MS Word, or most any other word processor, and soon we will have programs that display fonts correctly. To really jump forward into the computer age do the unthinkable and make that hideous one-font format the standard form.

Fonts like underscoring and boldfacing can, but not always do make a document easier to read. "Looks like a

ransom note" is a snide comment often accurately aimed at desktop publishing efforts. These enhancements, like foam on beer, may be pretty, but they take up space. No one would buy a bigger beer glass to hold more foam, but this is exactly what we do when we take essentially simple typewriter (ASCII) data and edit it with a word processor. As an ASCII file, a draft of this column occupies 21,766 bytes. As a Display Write file it is 30,208 bytes and in WordPerfect it is 22,287 bytes. As Portable users understand, saving disk space is always a virtuous goal. Equally important is the greater compatibility ASCII data has with various programs. Without any special programs ASCII data can be accurately displayed on a computer screen or printed using most printers. In addition most programs are capable of importing ASCII files.

I must admit to being surprised by the small amount of overhead added by WordPerfect. I expected it to be on the order of that added by Display Write. This is certainly a positive point for WordPerfect. *[Editor's Note: The WordPerfect files we use in the creation of The Portable Paper have a much greater overhead, primarily due to our use of style sheets and printer information. Tom's WordPerfect file may not have had a large style sheet associated with it. For example, a 1,201 byte ASCII file grew to 10,054 bytes when I added the Portable Paper's style sheet to it.]*

MORE FILE MANAGEMENT

Recently I had the job of responding to large number of requests for data that were submitted to my Company by various parties in a legal proceeding. These data requests generally took the form of several written pages of questions attached to a letter of transmittal. The first thing I did to prepare my responses was to get the question sheets scanned into files readable by a computer. I wanted to create a series of dialogue files which would include the question and my written response. I laid out the form of a specific dialogue sheet and named it COVER.TXT. This starter file included such pertinent information as the Company's name, docket number, requester's name, the date of the request, and name of party to which the request was directed. This latter item may seem a little redundant since it is a repeat of my Company's name, but it is not. After the other parties file their cases I will be able to send them data requests and the "from-to" identification is essential for complete identification.

Disks with the scanned documents in WordPerfect format were returned to me. Since I wanted the data in ASCII instead of WordPerfect, I borrowed a computer with WP5 installed and learned how much I really hate WordPerfect. I think WordimPerfect would more accurately describe the program, but it was the easiest way available to convert the files to ASCII. I transferred the ASCII files to my Plus and started to work. I had already started the process since I needed more meaningful names for my files than SCAN1, SCAN2, etc. I named my ASCII versions of these files in the format NNN01.TXT, using the 1st three characters to identify the requester and the 4th and 5th to identify these as the first series of data requests.

I had to do some clean-up work on the documents, since scanner technology is not yet able to produce perfect copies. This is especially the case when third- or fourth-generation copies of the originals are scanned. My Webster's Spelling Checker was a valuable aid for this job since scanning errors usually produce spelling error.

The results produced by the scanner were amazing.

Charge your Portable (and HP9114 and ThinkJet) off your car's cigarette lighter!

It's the Mobile Ni-CaD Recharger (MNR-2) from S.O.S., and it couldn't be easier to use: simply plug one end into your car's cigarette lighter and the other into your Portable, Portable Plus, HP9114, or ThinkJet.*

The time it takes to charge a given unit is about 30% longer than with a wall charger. Your car does not have to be running—the unit can operate overnight with no danger of running down a normal car battery.

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* Also works with HP41C/CV/CX, HP71B, and HP75C/D hand-helds; HP82143 and HP82162 printer/plotters; HP82161 cassette drive; and rechargeable reserve battery packs for all these devices.

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Some of the clean documents produced worse copies. One copy of a copy of a fax that I didn't expect to scan into anything useable at all scanned almost perfectly. On one document several characters of a 20- or 30-character handwritten note were captured correctly. If you have a document you need in electronic format try having it scanned before you do much retyping. The best scanning equipment is still relatively expensive, but it can certainly be worth the money. My documents were scanned with a Calera 9000 (\$30,000 without a PC to drive it).

After this preliminary work, I began to get serious about answering questions. I loaded the question file into The Editor and started looking for questions I should answer. To answer a question I first saved it to The Editor's block buffer and then started a file named NNN01QQ.TXT or NNN01QQS.TXT in The Editor's other file buffer. The QQ in the above filenames identifies the question number and S identifies a subquestion if applicable. I merged COVER.TXT, into this file and then moved the cursor to the area reserved for the question number and typed it in. I then completed the filename identification which was partially written in the lower left corner of the sheet. Next I moved the cursor to the area reserved for the question and inserted the question which I had saved in The Editor's block buffer. I then moved to the response area and typed the answer. Finally I saved the file and returned to the question file to look for the next question.

Whenever I finished a set of questions I used PKZIP to create a library file containing the COVER.TXT question file and the response files.

LOTUS 123 TRICK

I recently had the disgusting chore of removing flexibility from a spreadsheet I had created. Certainly this seems a step backward, but in the world of business even stranger things have occurred. To remove the flexibility designed into the spreadsheet it was necessary to replace formulas containing @IF statements with formulas containing only active cell references.

The DOS FIND utility on the B:\BIN\ETC subdirectory of the Portable Plus aided this job significantly. First I used the 123 PRINT TO FILE option and the PRINT CELL FORMULAS option to create a file containing a listing of all the cell formulas in the spreadsheet. The FIND utility reduced this listing to only those cells containing @IF statements. The FIND command was issued as follows:

```
find "@IF(" filename.prn > prn
```

2400 baud portable modem for your HP Portable

The 4"×2"×1" WorldPort 2400 costs less than HP's internal modems, is faster, and can be used with more than one computer.



Weighs only 6½ ounces!

If you do data communications with an HP Portable or Portable Plus, you've probably found the internal 300- or 1200-baud modem to be too slow. Until now, the only solution was to buy a bulky external modem and lug it around wherever you go.

A better solution is the Worldport 2400. It measures a trim 4"×2"×1", it's rugged, it weighs only 6½ ounces including the battery, and it sends and receives at 300, 1200, and 2400 baud.

A MYRIAD OF FEATURES

The Worldport 2400 has a wealth of features you would expect to find in a desktop modem several times its size.

EXTRA BONUS FOR USERS OF THE IBM PC AND NEW HP PORTABLE VECTRA

Included with the WorldPort 2400 at no charge is the acclaimed communications and remote control software package, Carbon Copy PLUS (retail value: \$195). The program also comes free with the WorldPort1200—WorldPort2400 Upgrade Kit. (Carbon Copy PLUS will not run on the HP110 or Portable Plus, but both WorldPort modems will run with HP's communications software, namely the Terminal program for the HP110, and TERM and Reflection for the Portable Plus.)

For example, the WorldPort 2400 has auto-dial, auto-answer, and both pulse and tone operation. It comes with a standard modular phone plug for connecting with the telephone line. It offers non-volatile storage of up to 20 commands. And it is fully compatible with the industry-standard Hayes AT Command Set, and with the HP110's Terminal software and the Portable Plus's TERM and Reflection software.

Since a modular plug is not always available, the WorldPort 2400 also has a built-in interface for an acoustic coupler. (The coupler, an optional extra, runs at 300 and 1200 baud.) The unit is compatible with both the internationally accepted CCITT communications standards and the Bell communications standards recognized in the U.S..

The WorldPort 2400 uses a standard 9-volt transistor radio battery (it's included with the unit). A fresh battery will keep the WorldPort humming for 8-10 hours. You can extend battery life by operating the unit from a wall outlet whenever possible, using the optional AC adapter. The WorldPort 2400 draws no power from your Portable's battery.

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In addition to our standard 60-day money-back guarantee, the

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		WM13NH
WorldPort 1200 modem	199.00	179.00
(without software)		WM11NM
Cable to connect modem to HP Portables	30.00	20.00
		WM14NM
Acoustic coupler (300/1200 baud)	79.95	79.95
		WM16NM
Upgrade kit: WorldPort1200—WorldPort2400	199.00	179.00
(includes Carbon Copy PLUS software)		WM13NM

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RECOMMENDED FOR:		
HP110 Portable	•	Portable Vectra
Portable Plus	•	HP150
IBM PC and compatibles	•	

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Lines containing the string in quotes were redirected to the printer to produce a printed working list. This listing actually included too many cell formulas, since it picked up @IF statements used in error tests as well as @IF statements used to add options. In addition, the list included @IF statements used in formulas to report the amount of an error condition. These later uses of the @IF statement were easy to identify and remove with the FIND utility. Since it is always necessary to allow a little tolerance in error testing, @IF statements used for error testing always included an @ABS statement, and those @IF statements used to report the amount of an error condition always included an @ISERR statement. I expanded the FIND command to this (single line):

```
find "@IF(" filename.prn | find /v "@abs(" | find /v "@iserr(" > prn
```

The FIND command is sometimes referred to as a "filter" because it is able to take the output of a DOS command and further process it; that is what is being done in the command above. Normally FIND will send its output to the screen. The vertical bar character | is called a PIPE and it tells DOS to send output from the first FIND command to the second FIND command and the output from that command to the third FIND command. The /V following the FIND command tells it to discard those lines containing a matching string.

I hope you never have to use this technique to destroy

a spreadsheet. A more constructive use would be to use it to find all references to a specific cell. Normally, if I need to know what cells are dependent on a particular cell, I will put @NA in the cell and recalculate the worksheet. This @NA technique is quick but it is not without fault. First it affects secondary dependent cells and some directly dependent cell may be protected by the structure of an @IF statement and not be affected. It certainly would be easy to use the FIND filter to search a listing of cell formulas for specific cell references. In using this technique there is one pitfall to be aware of. In the cell formula print 123 will substitute named ranges for the absolute cell address if the cell is a named range. If this is the case then search for the named range in the cell formula listing.

Unfortunately the Portable manual does not mention the FIND command, Command Piping or I/O Redirection. More about this can be found in any of a number of expanded MS-DOS references or even the DOS manuals supplied with other computers. There are a number of useful DOS filters available, including SORT and MORE supplied with the Plus. One of my favorites is TRIM.COM on Personalized Software's DOS Utilities disk.

A final warning about using FIND—it is case-sensitive. If the search string is not stated in the correct case, it will not be found. Should you need a non-case-sensitive FIND program, try FGREP on the DOS utilities disk. FGREP allows case-sensitive as well as non-case-sensitive searches but it unfortunately does not include the /V option to

exclude matching lines.

MORE UTILITIES FOR YOU PORTABLE

An article in the October 1990 issue of *PC Computing* magazine identified a number of programs offering useful extensions to MS-DOS. I have tried a number of them on my Portable and found at least two of merit: REND and FFF. REND is like a combination of the DOS RENAME command and the *PC Magazine* REDIRECT utility and is especially useful for disk reorganization. FFF is file finder utility on the order of Norton's FileFind or Phil Katz PKZFIND, but it is even better in that it searches ARC, ZIP, ZOO and other library files. With one exception both programs worked well on my Portable. When I selected the one-page-at-a-time display option in FFF, it hung up my Portable Plus. For people using more than one library utility, it may be the best file finder program available; and it is distributed with source code. These programs are available from the CompuServe IBMSYS forum as REND13.ZIP and FFF345.ZIP.

A TAD MORE ENVIRONMENT FOR THE PLUS

Just as "a penny saved is a penny earned," not using precious Portable Plus environment is as good as increasing the environment. I gained 23 useable bytes of environment by eliminating these two paths from the PAM.ENV path statement:

```
b:\hp82863k;b:\memo-tm;
```

Certainly I am still using Reflection and Time Manager but I load them with Batcom Compiled batch files which allow me to path directly to the executable file using a line of code similar to this:

```
b:\hp82863k\reflect1\va:\comm\reflect1.cnf a:\comm%1.cmd
```

Anyone using batch files to load Reflection or TM and Memomaker can free this valuable asset by including the following lines in the loader batch files. For Reflection include the following lines:

```
cd b:\hp82863k
B:reflect1 /v a:\comm\reflect1.cnf a:\comm%1.cmd
```

For TM include this lines:

```
cd B:\memo-tm
b:tm
```

Since I load Duette with a batch file it would be easy to drop DUETTE from the path too, except the VDL utility on the Duette ROM is something I cannot do without. I will put VDL on one of my ROMBO ROMs and then drop DUETTE from the path.

Actually, except for programming experiments, I am yet to use all of my Portable's parsimonious 128 bytes of environment, and I even use the full 110-style (Tue 20:34 [A:\work]): *) day/time/path prompt. I even added a star (*) and a backspace to make a nifty blinking cursor. Volume 3, No.4, Pgs. 32-33 of *The Portable Paper* explains how to have a long prompt and more environment (edit PAM.ENV with The Editor and substitute the real ASCII characters for any \$h or other \$ type prompt characters).

Also works on the
HP150.

FilePlus: The Portable Plus file manager. Fast, sophisticated, easy-to-use!

- List files in two directories simultaneously
- Copy, move, and delete multiple files
- Sort directories
- Create protected ("Read-Only") files
- Back up only those files that have changed since last backup
- And much more!

When Hewlett-Packard introduced the P.A.M. file manager in 1983, the program was ahead of its time. With P.A.M., users could copy, rename, and delete files by pressing function keys instead of having to enter DOS commands.

Today, however, users are more sophisticated—and so are the file management programs that have come on the IBM PC market. These programs go way beyond P.A.M. in their abilities and in the convenience they offer the user.

Most of these file managers won't run on the Portable Plus, but we've developed one that does. It's called **FilePlus**, and here are its benefits:

1. Display two directories

This is a feature that even some of the most popular IBM compatible file management programs don't have! FilePlus lets you list two directories (from the same or different disks) simultaneously on screen. This makes it especially easy to move files back and forth between the two directories.

2. "Point and Shoot"

You don't have to wade through P.A.M.'s function key menus to perform a simple operation like copying a file.

Instead, you simply display the contents of the source and destination directories side-by-side, tag the file you want to copy, then use a simple Lotus-like menu to enter the "Copy" command with a single keystroke.

You use the same "Point and Shoot" method to run programs and to move, delete, view, etc. any files you wish.

3. Tag multiple files

You can tag any number of files in a directory, then perform the same action (copy, rename, delete, protect, etc.) on all of them in a single step.

4. Sort files

FilePlus can list the files in a directory by name, extension, size, or date. (An alphabetical listing by name helps you locate files in a hurry. A listing by size is useful in determining which files to erase in order to free up any needed amount of disk space.)

5. Single-step "Move" command

To move a file from one directory to another, you no longer have to copy the file first then delete the original. FilePlus lets you do it with a single "Move" command—and you enter the command with one keystroke!

6. Protect your files

You can protect your files (make them "Read-Only") to guard against accidental deletion. FilePlus even lets you do this with entire directories! You can unprotect the files whenever you wish.

7. Show attributes (Read-Only, Hidden, Archive)

FilePlus displays the attributes of all the files in a directory so you can view them at a glance or change them in a flash.

8. Backup only if changed

FilePlus allows you back up just those files that have been changed since the last backup.

FilePlus will save you time and effort, boost your productivity, and increase your enjoyment of your Portable Plus. Once you try FilePlus, you won't want to be without it.

Order FilePlus at our risk today!

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RECOMMENDED FOR:	
HP110 Portable	Portable Vectra
Portable Plus	HP150
IBM PC and compatibles	

If 10 more bytes of environment were necessary I could easily copy VDL to my RAM disk and drop DUETTE from the path, but 1K of RAM-disk is more valuable than 10 unneeded bytes of environment.

TIME MANAGER

110
P+ I am taking David Hughes' advice of a few issues ago and using Time Manager as a control center and running other applications from within TM. I think it is a pretty good way to operate. In the last week I have completely rewritten the batch files I use to manage my name and address lists, load TM, Tmerg, Cal and DW to work better with this newer style of operation. This little project led to the revelation about gaining a few bytes of environment.

OUTLINEPLUS

P+ I have been experimenting with David Toliver's OutlinePlus program and I am impressed. I had never thought much about wanting an outliner, but after using Outline Plus I am convinced there is a place for this kind of program. In fact I even made a place for it in EDBAT to integrate it with The Editor, Webster's Spelling Checker, and PKZIP.

I am not a big writer of outlines, but I think Outline Plus will encourage me to do more outlining. I have used The Editor or some other editor to do outlines, but they don't automatically number the lines and keep the indentations correct. Outline Plus does these tasks very well. When a line is added line numbers are updated, or if items are rearranged line numbers are updated.

Outline creates an ASCII file which makes it compatible with The Editor, Webster's, and most other programs. Although not intended to be an editor program, it is not at all a bad editor. Outline's primary purpose is to create a specifically structured document, an outline. Outline Plus is definitely a program you should try.

[Tom works for a natural gas pipeline company in Houston, Texas, and was one of the first to use PC's in the natural gas industry. His excellent contributions to the portable paper have proved beyond a shadow of a doubt that he is truly "The Savvy User."]

■

Through the Looking Glass



By Ed Keefe

This *Through The Looking Glass* column has turned into a review of several hardware and software items for the Portable Plus.

The topics include a discussion of the HP48SX calculator, especially as an add-on for the Portable Plus and the

other HP Portables. The article also describes how to trouble-shoot an ailing battery pack for the Portable Disk Drive.

The discussion of new and revised software for the Plus includes an update on the Classical Classifier Outliner and the Video Display Editor(VDE). There is also an announcement of three new programs for the Plus: UDIR, the Ultimate Directory lister, TETPLUS, a familiar game, and WP-LITE, an add-on for VDE. The article closes with an offer you may refuse.

THE HP 48SX CALCULATOR

110
P+ About six months ago, Hewlett Packard announced a calculator for the 1990's and beyond, the HP 48 Scientific Expandable (HP-48SX).

PV
LS/12 The HP-48SX does just about everything you could ever want a calculator to do. And it does it all in a package that is only slightly larger than the now-discontinued HP 41C calculator.

The HP 48SX abounds with keys: 49 of them. Each key can perform up to four different functions. The six keys in the top row are unlabeled. The manual refers to them as "soft keys". These keys activate menu commands shown in the bottom line of the 8 X 22 character display. The menu system looks, and feels, very much like a miniature version of the MemoMaker menu system on the HP110 and Portable Plus.

To describe all that the HP 48SX does, in a short article, would mean condensing the two volume Users' Manual to two pages. A "Reader's Digest" rendition of 850 pages of technical information would not begin to scratch the surface of all this machine can do. Instead I'll mention a couple of things about the calculator that caught my attention.

- **Graphics** -- One of the more interesting features of the HP 48SX is its ability to produce graphs of formulas at the push of a button. Once the graph is on the screen, you can zoom in on parts of the graph. You can even move a cursor to a point on the graph and ask questions about the problem at that point, for example, what's the slope of the graph. This graphics feature is also available on the HP-28S calculator. On the HP48SX the interaction with graphs is more intuitive and faster.

- **WYSIWYG Equations** -- Equally intriguing is the "Equation Writer." When you press the Equation key, on the HP48SX, you can key in formulas in a WYSIWYG format. What-you-see, in an engineering manual or operations research textbook, is- what-you-get on the screen, slowly but accurately.

When you press the ENTER key, the calculator rewrites the formula in a single line of computer code and places it on the stack. There, the formula is available for editing, graphing or Solving.

- **Interchangeable Solutions** -- The Solve feature of the HP 48SX is something that caught the attention of the editors of PC-Week magazine. An article in the Sept. 24 issue of PCW compared the HP 48SX with four, PC-based, equation-solving programs (Eureka, MathCad, Lotus 1-2-3/G, and Milo). In short, the article claimed that the HP 48SX could handle everything the experts at PCW could throw at it. All the PC-based programs failed their math test in one way

or another.

The Solve routine parses an equation and rewrites it so each variable is written in terms of all the other variables. For instance, to create a financial calculator, all you do is key in the compound interest formula and press SOLVE. The HP48SX will solve for N,I,PV, PMT,FV and put the names of the variables in a menu on the screen. From that point on you would have the equivalent of a typical financial calculator such as the HP 12C or the TI Business Analyst. At least you would have the top row function keys.

- **Demo Program** -- If you're interested in more details about the HP 48SX calculator, I'd recommend getting a copy of the HP48DEMO.EXE program. This demonstration program will run on any IBM-compatible computer equipped with a color graphics adaptor. The demo program is available from the HP Forum on CompuServe. You may also find it on many electronic bulletin boards around the country.

THE 48SX / PLUS CONNECTION

P+
110
PV
LS/12

The one feature of the HP 48SX that really made me sit up and take notice was the claim that the calculator could be connected to an IBM or Macintosh computer. The advertising copy claimed that, when connected, the computer could drive the calculator. I imagined that this would be like having an external "math coprocessor" -- but what a processor! The ad copy made this feature sound so simple that it wasn't even worth mentioning.

I assumed that since the HP Portable Plus and the HP 48SX were both designed by the Corvallis Division of Hewlett-Packard, the calculator and computer would be made for each other. I called HP Corvallis to check out my assumption. I was wrong. The HP 48SX had never been tested with a Portable Plus. As a matter of fact, the HP representative was not sure if she could locate a Portable Plus in the Corvallis plant for testing purposes. Another representative suggested, strongly, that the Portable Plus could not communicate with the calculator. Naturally, I was loathe to spend money to find out if the HP representative was right.

Hal Goldstein made a few phone calls and, with a little encouragement, HP agreed to loan us an HP 48SX for testing purposes. Our thanks to HP-Corvallis for taking the risk and lending us one of their calculators. HP also provided us with necessary hardware to connect the calculator to a computer.

In short, the good news is that the Portable Plus can, and does, communicate with the HP48SX. The not-so-good news is that the process is neither intuitive nor easy. For future reference, let me describe what I had to go through to make the calculator and computer talk to each other. First, I had to deal with the hardware.

The hardware that connects the HP-48SX to a computer is simply a three foot cable. On one end of the cable is a plug for the calculator. The other end of the cable has a DB9 plug.

Since the Portable Plus uses a DB9 socket for its serial port I plugged in the cable and tried to get the machines to relate to each other. No luck!

The problem was with the Portable Plus. The DB9 socket on the Plus is wired differently from similar DB9 sockets on today's computers. This meant that I had to make an adaptor.

I spent an hour rummaging through a Radio Shack's

parts rack looking for the right connectors. I estimated that the parts to make an adaptor could be purchased for under \$10. All I needed were the wiring diagrams for the Plus and the HP48SX. The Plus's Tech Manual shows such a diagram on page 2-18. The documentation for the HP48 Interface Kit shows the corresponding diagram for the HP-supplied cable.

Rather than make an adaptor, I chose a different approach. The folks at Personalized Software let me use one of their spare modem cables. It was a good labor-saving idea, but the solution didn't look pretty. The connection between the Portable Plus and the HP48 consisted of a modem cable hooked to a DB25/DB9 adaptor (supplied by HP). This adaptor was hooked to the HP supplied cable. The other end of this cable was plugged into the 48SX: a real kludge, but it worked.

Second, I had to deal with the communication software. The HP48SX uses the Kermit program to communicate with other hardware. Kermit is built right into the calculator as part of the operating system.

If you want the HP48SX to talk with another computer, then Kermit must be running on that computer as well. HP supplies a version of Kermit for either a PC-DOS or Macintosh computer. The version of Kermit that comes with the Interface Kit will not work on the Portable Plus.

Fortunately, I had a customized copy of version 3.0 of Kermit for the Portable Plus (available on the 1991 Subscribers Disk). Unfortunately, I had forgotten how to use Kermit. Relearning how to run Kermit reminded me why I quit using it. Kermit is not my kind of data communication program. The program is completely command-driven. There are no pull down-menus and only a few, sketchy, help screens.

To compound the problem, the HP-48SX uses a version of Kermit that is menu- and keystroke-driven. That meant spending a couple more hours perusing the Calculator's Owner's Manual. I expected plenty of "how-to" examples, but was surprised to find nary a one. I looked in the on-disk documentation that came with the Interface Kit and found one "how-to" example.

After several unsuccessful attempts, I was able to transfer files back and forth between the 48SX and the Portable Plus. I was even able to edit calculator files on the Portable Plus and put them back in the calculator using my favorite editor, VDE (also available on the 1991 Subscribers Disk). The instructions for doing this are fairly clear. The real challenge was getting the computer to drive the calculator. All I wanted to do was type 2+2 on the keyboard of the Portable and let the calculator solve this monumental problem. I wanted the answer to come back to the Portable Plus. (Hopefully, it would be 4.)

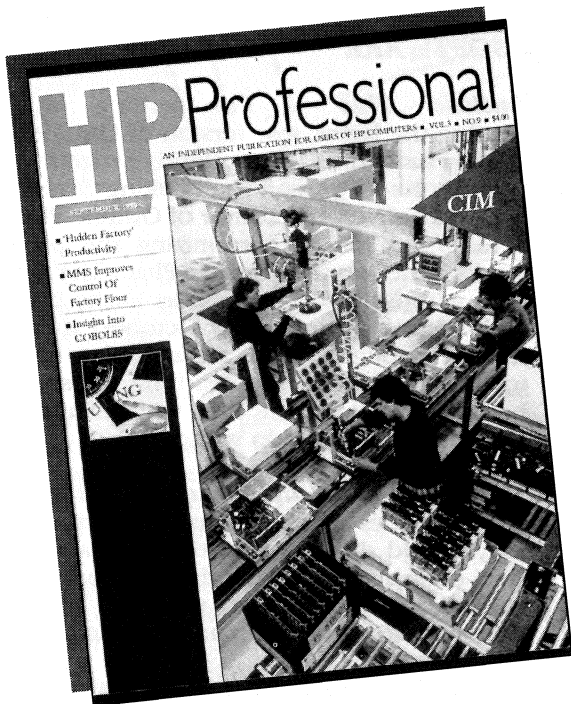
There was not even a hint, in the Owner's Manual, of how to accomplish this. Nor did I find any mention of remote control in the documentation for the Interface Kit.

I even called the HP-Electronic Bulletin Board in Corvallis. Again, I struck out.

Finally, I called HP-Corvallis and talked to the product manager for the HP 48SX, Richard Kirby. Richard sounded both friendly and knowledgeable. He even allowed that the solution to the problem of remotely controlling the HP48SX was not clearly documented, and, to solve the problem on my own, I would have had to be very familiar with the Kermit program. Admittedly I was not.

Here, then, is the recipe to make the Portable Plus run the HP48SX remotely. Remember, you saw it here. The procedure is not documented elsewhere. It won't make

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any sense, now, unless you have an HP48SX. But, just in case you ever get one, put a tag on this page of *The Portable Paper*. It will help you find the reference a year from now when you need it.

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LS/12

1. Make all the necessary connections between the Plus and the HP48SX.
2. Get Kermit running on the Portable Plus.
3. Type in the command to **SET SPEED 9600**.
4. On the HP48SX press the **orange key** and the **I/O key**.
5. Press the **F key** to choose SETUP from the menu.
6. Set the parameters to **wire, ASCII, 9600 baud, no parity, checksum 3, translation 1**.
7. Press **orange-I/O** and, then press the **NXT key**.
8. Press the **E key** to OPENIO.
9. Return to the main I/O menu (**orange I/O**).
10. Press the **C key** to start "Server mode" (See "Awaiting Server Cmd." in the display of the HP48SX).
11. On the Portable Plus, at the MS-Kermit> prompt, type **set remote off** and press **Return**.
12. Type in **remote host CLEAR**. See the message Empty Stack. Now type in **remote host 2 2 +** and press **Return**. Observe that this is addition in the RPN style, and also note that there should be blank spaces between each word and number in the command. If you look quickly, you'll see the calculator acknowledge the message. The answer 1: 4 will appear on the display of the Plus.

Well, there you have it. Any command that you can issue on the calculator, may be sent from the Plus. All that is needed is that the command be preceded by the directive "remote host." According to the Kermit documentation, you can reassign the "remote host" directive to another set of keys, for example "rh" which will save some typing.

This remote control approach doesn't make much sense if all you want to do is add 2 + 2. The approach of using a computer keyboard makes sense if you have a lot of data to key in to the calculator, especially alphabetic data.

HIDDEN COSTS!

The 48SX, with 32K bytes of memory, has a list price of \$350. However, EduCalc, and other resellers, have already discounted the price to \$275.

On the other hand, for me, the full price of learning to use the calculator could go as high as \$10,000.00. I reckon that's what it would cost to finish my degree in mathematical physics.

WHO'S IT FOR?

The HP 48SX is best suited for the mathematically sophisticated scientist, engineer, or financial analyst. It is definitely not the calculator of choice for the mathematically naive person.

The HP48SX is more powerful and more complicated than any spreadsheet program. (What spreadsheet can do symbolic math, manage units of measurement, keep alarms, and perform data communication?)

Since it is so powerful, the HP 48SX requires more than just a quick read-through of the Owner's Manual. For this reason, I would not recommend that students rush out and buy an HP48SX right before semester tests. A better suggestion for students would be to set aside a vacation period to do nothing but study the workings of the machine. A good use of the calculator would be to review, and thus reinforce, the material in an already completed

class in calculus or physics.

SUMMING IT UP

To summarize, the HP-48SX is a dynamite machine for performing mathematical analysis. It can be connected to the HP Portable Plus, and to desktop computers as well. It functions moderately well in this regard. It is relatively inexpensive to buy, but like any piece of complex software, it will cost you extra, in time and effort, to learn to use it.

If you're the kind of person eats, sleeps and breathes math, and wants to see graphs of your equations on a small LCD display, then the HP-48SX is for you.

I have only one wish for the HP-48SX: I wish HP would produce a program like this for a desktop or laptop computer. Give the program full screen graphics and a full screen Equation Editor. Then, put such a program on a fast '386 computer with an 80387 math coprocessor and it would blow the competition out of the water.

NEW SOFTWARE

- **Outline Plus** -- I'm writing this column using the latest, test version of Outline Plus. Outline Plus is the same outlining program mentioned in the last "Through the Looking Glass" column.

David Toliver, the author of Outline Plus, has done a masterful job of customizing the program so it works better on the Portable Plus. The Outliner now runs without any PC-emulators in the background.

As of this writing (early October) there are still a few minor bugs to eradicate and a few enhancements to add. By the time you read this, those tasks should be complete. Outline Plus will definitely be a program that you can't do without.

- **UDIR: The Ultimate Directory Lister** -- The UDIR program does much of what a directory lister could and should do. I wrote the program to satisfy my own curiosity about how the directory routines work in Turbo Pascal. I also got tired of using several different directory listing programs to get the information I wanted.

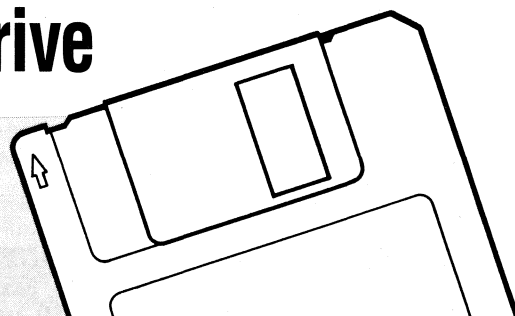
The Ultimate Directory Lister lets you:

1. List all files in a specified directory, and, by default, all files in any subdirectories attached to the directory;
2. Override the extended listing and stop after listing the main directory;
3. Redirect the output to a file or printer;
4. Sort the list of files by name, date, size and attribute;
5. Perform a crude but effective "whereis" operation;
6. Find all new files on a disk;
7. Format the output in one of six different ways;
8. Perform a pseudo batch operation using an @file;
9. Pause the listing to prevent scrolling;
10. Find the subtotals and grand total of all files chosen;
11. Use wild card to search for hidden, system, read-only files, and directories;
12. Find the disk space a given set of files will take on any type of MS-DOS hard or soft disk.

If all that isn't enough, UDIR will work on any MS-DOS computer including the HP-110.

Now you can use HP Portable or HP150 disks (single or double sided) in a 3½" IBM compatible disk drive

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Even though your HP Portable/HP150 and the new IBM compatible computers both use 3½" disks, the disks are incompatible—HP disks can't be used in IBM machines.

ReadHP, a "device driver" program developed by Personalized Software, solves the problem.

ReadHP installs in an IBM PC or compatible in minutes, and is a cinch to use: You simply place a 3½" HP disk (single or double sided) in the PC's disk drive, and press a few keys. Voila! The PC can read and write to the disk directly—without losing the ability to read and write to IBM disks.

Want to share your WordPerfect, Lotus, or other files between your HP Portable/HP150 and an IBM compatible with a 3½" disk drive? It's simple: Order ReadHP today.

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Portable Paper subscriber price \$69.95

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Portable Vectra	•
HP150	•
IBM PC and compat.	•

UDIR is now available in the Turbo Pascal 5.5 library on CompuServe. UDIR will make its way onto the 1991 Subscribers' Disk.

- **TETPLUS** -- Finally, here's the one you've all been waiting for. Tetris, the game of falling blocks, is now accepting challengers on the HP Portable Plus.

For the past couple of days, I have busied myself with the task of forcing Tetris to run on the Portable Plus. TETPLUS is a very simple version of the greatest time waster ever invented. In this version there are no fancy sign-on screens, no instructions to get in the way, no preview of the next falling piece. This is just brute force Tetris for die-hard players.

The game has 10 levels of play: from "novice" to "C'mon, get real!"

The object of the game is, of course, to slip odd-shaped, falling pieces into empty places in a box. When you fill in a row, the row vanishes and you have more room in which to manoeuvre. The game continues until you run out of places to fill. The odd shapes continue to arrive from within the computer in a never-ending march. And, naturally, as you score more points, the speed of the falling pieces increases.

One problem with playing TETPLUS on the Portable Plus is the aspect ratio of the screen. When the falling pieces are rotated, they also change shape. My first thought was that this was unacceptable. However, after playing a few games, I decided to leave this alone. It adds a novel twist to the game and makes it even more of a challenge. Let me know what you think.

I have put TETPLUS in the public domain. TETPLUS will also be found on the 1991 Subscribers Disk.

FIXING THE 9114 BATTERY

On a recent trip to Personalized Software, I took along an ailing battery pack for the 9114 disk drive. The battery seemed to accept a charge. At least that's what my voltmeter

showed. However, it would no longer run the disk drive.

Ron, the technician at Personalized Software, diagnosed the problem immediately. Somehow the fuse had failed. That's how I learned about micro-fuses. Ron showed me what looked like a quarter watt resistor on the battery pack's circuit board. That was the fuse. And, sure enough, it was no longer working.

The way to test this is to put probes from an ohmmeter on both sides of the fuse. If the ohmmeter reads zero, the fuse is good. It's behaving like a piece of wire, as it should. If the ohmmeter shows any value other than zero, then the "wire" in the fuse is broken and the ohmmeter will measure the resistance in the rest of the circuit. If your battery pack ever fails, you might try testing the fuse. And, if you're electronically inclined, you might even want to replace the fuse yourself or get it done locally. For that you will need a replacement micro-fuse. One source of sub-miniature fuses is Allied Electronics (1-800-433-5700). Their catalog refers to the fuse as an "Axial-Lead PICO II Subminiature Fuse." The stock number is 845-2014. You want a 5 amp fuse for the 9114 disk drive. It will cost less than a dollar. There is a similar fuse (one-half amp) for the Portable Plus. Ron showed me where the fuse is located on the circuit board of the computer. He also pointed out how easy it is to blow this fuse if you're not extremely careful when changing the battery in the Portable Plus. My recommendation is to let Ron fix this one if there is ever a need.

OLD SOFTWARE

- **VDE 1.54** -- Once again, my favorite editor for the Portable Plus and IBM-compatible computers has been upgraded. Among the new features are the ability of VDE to import and export files to and from WordPerfect, MS-Word, WordStar and XYWrite.

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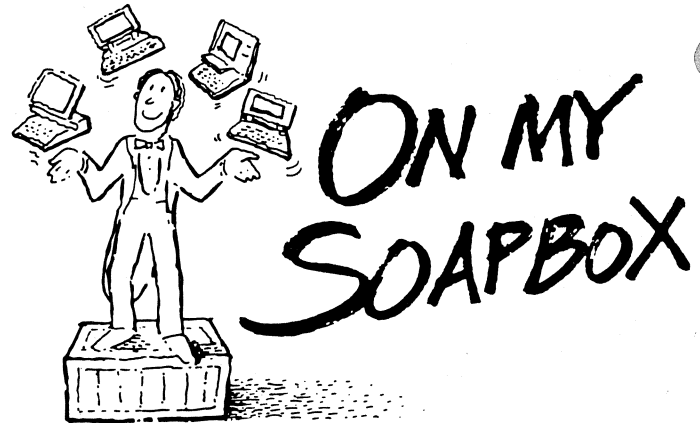
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There are a couple of new printer commands (CtrlF:insert current file name in header, and CtrlPG:pause printing immediately.) There is also a way to write a macro that will drive any DOS utility program using the name of the current file as an argument.

This text editor is available on CompuServe in the IBMAPP forum. The latest Portable Plus version will be on the 1991 Subscribers Disk.



By David Hughes

WORLDPORT 2496 FAX/MODEM

110 At present, the WorldPort 2496 Fax/Modem is a mixed blessing for Portable Plus/HP-150 users. The modem is superb and works well with applications like Reflection 1, but the fax portion is not currently useable. The communications software used to control the fax directly accesses the communications hardware for reliable data transfer at high baud rates. Unfortunately, neither the Portable Plus or the 150 are compatible with the IBM-PC at this level.

Hal Goldstein sent me the WorldPort 2496 fax/modem and put me in touch with the engineers at Touchbase Systems to solve the compatibility issue. Although they are currently directing all their efforts toward preparing for the upcoming COMDEX, Touchbase Systems seemed willing to modify the command-line versions of their utilities to recognize the special communications hardware of the Portable Plus or HP-150. Although the disk-based utilities are large, even by today's standards, the Portable Plus would be a formidable machine if the utilities could be placed in ROM. While waiting for the revised software, I have had the opportunity to use the fax and modem software with my Epson 386SX.

The FAX.EXE program is designed to simplify the task of fax/data communications with the WorldPort 2496. From the main menu you can either operate the fax or the modem, manage the telephone book, view a fax, shell to DOS or your favorite word processor. Since FAX swaps to either EMS memory or disk, you can shell out to large word processors like WordPerfect 5.1. In addition to the main FAX program, there is a TSR utility that allows a simple fax/bulletin board service to run in the background. Command line utilities are also available to send, receive, and display faxes, and check the log or fax queue status.

The Touchbase 2496 fax/modem package is a tremendous productivity booster if you have the need for high speed communications, which include fax capability. It is especially well suited for the portable, since the fax can be powered from a 9 VDC battery for several hours.

THE GOOSE WINS

In my last column I talked about developing a simple utility designed to manage the system configuration parameters of the Portable Plus from the DOS command line. I've learned a few things about PAM since then, but it wasn't easy.

110 **WP-LITE** - One of the drawbacks of VDE for many people is its use of WordStar-like commands. Since version 1.52 of VDE, there has been a menu mode for those who prefer a program like The Editor. On the other hand, many people are more familiar with the commands from WordPerfect.

P+ To give VDE more of the look and feel of WordPerfect, **PV** I have designed a small program which I call WP-LITE. **LS/12** WP-LITE consists of a batch file that loads VDE with a set of function key definitions that approximate those in WordPerfect. In particular, pressing the F3 key will pop up four help screens. The first help screen shows a keyboard template very much like the one shown in WP when one presses F3-F3. WP-LITE will be included on the 1991 Subscribers Disk.

ONE MORE YEAR, AND COUNTING!

110 I was surprised by the announcement that *The Portable Paper* will be discontinued after one more year of publication. The fact that the Portable Paper would cease publication after 36 issues was not so surprising as was the announcement itself. I've subscribed to several computer magazines that have terminated without prior announcement, leaving me standing at the mailbox. It's to Hal Goldstein's credit that he would share his plans with the rest of us. That's typical. The Portable Paper has always been a gold-mine of information: both the good and bad.

P+ What the announcement means, for one thing, is that this year's Subscriber's Disk will be the last. The Subscriber's Disk involves a lot of work, at least as much work as editing a collection of short stories. All that will come to an end with this year's disk. Now is the time to get any last minute files to Personalized Software. Don't put off sending in your favorite utilities until next year: there won't be a next year.

PV [A number of subscribers got the impression from my last Publisher's Message that *The Portable Paper* would end with the last 1991 issue. Actually, what I ment was that we would only be willing to commit to one more year - we would only sell one-year, 1991 subscriptions. If there is enough interest and it is profitable for us, we would love to continue *The Portable Paper* beyond 1991 - Hal.] **LS/12**

THE KEEFE COLLECTION

110 Many of the programs described above will be available on Personalized Software's 1991 Subscribers Disk. In addition, the Portable Paper will be offering "The Keefe Collection" of software in the second or third 1991 issue of *The Portable Paper*.

P+ Until next time, Happy Porting!

PV [Ed Keefe is an author, programmer, and computer science instructor. He is the president of the Fast Aid Company, 314 SW Logan, Ankeny, IA 50021. Ed's CompuServe ID# is 73277,1064.] **LS/12**

At last! EASY TO USE COMMUNICATIONS SOFTWARE

for the HP110 and Portable Plus

HP110 users: Tired of struggling with the built-in Terminal program?

Portable Plus users: Is PC2622 or Reflection too complex for your needs?

In either case we have good news: two of the easiest-to-use communications programs we've ever seen.

Term110 was developed by Cliff Looyenga, who writes the "Wizardry" column for The Portable Paper. It runs on the HP110.

TermPlus was developed by Portable Paper contributor David Hughes from an earlier

prototype. It runs on the Portable Plus.

Both programs allow you to:

- Send and capture ASCII information;
- Quickly send programs, Lotus worksheets, and archive files via the XMODEM protocol;
- Log onto electronic bulletin boards and remote computers automatically;
- Store and access directories of phone numbers;
- Run other programs without severing the phone connection.

Both programs have on-line help, and use around 25K of electronic disk space.

Most importantly, both programs make efficient, logical use of function keys and menus to make the job of transferring files and programs *easy*.

You won't appreciate *how* easy until you try Term110 or TermPlus for yourself. We invite you to do so today at our risk.

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(Specify which program when you order)
Portable Paper subscriber price.\$79.95

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HP110 Portable	☒	☐
Portable Plus	☐	☒
Portable Vectra	☐	☐
HP150	☐	☐
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Available on ROM Backup for the Portable Plus*	☐	☐

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*ROM backup of TermPlus includes IBM disk formatting utility, ThinkJet control pop-up, and more.

110 Herein lies the dilemma: the power tools used for debugging reside on my desktop computer. The application I'm debugging is designed for the Portable Plus. Debugging an application of this nature is like trying to catch a goose on the run. The goose always wins.

P+ My investigation reveals some interesting things about PAM. When PAM initializes, it takes over the ^C and fatal error handlers, and then proceeds to hook the **modem ring, serial ring, ring enable, and alarm interrupts**. PAM sets up a few more internal variables, and then performs an **absolute disk read** on the B: drive, and then later the A: drive. My computer hangs while reading the A: drive. What this means is that the parameters it's searching for probably do not reside in main memory at all, but in some undisclosed location on the EDISC disk. Be patient -- we're not finished chasing the goose yet!

MODEM BLUES

P+ I've written the DIAL and MESSAGE utilities based on the descriptions of the last article. I've implemented a simple HANGUP utility to turn the modem off when the connection has finished. They do indeed dial/send a string to/hang up the modem and return with an errorlevel to DOS based on the success of the connection. I've tried using these utilities from within TERM, the plain-vanilla terminal built into the Portable Plus. For some reason the DIAL command is aborted when accessing TERM. It looks like TERM is resetting the serial port or modem, but I am not quite sure at the moment. I am still working on this.

LS/12 OR SUPERSPORT 286 DISPLAY PROBLEM

LS/12 Sometimes it pays to do a little research before sending your laptop computer in for maintenance under the extended warranty. Even if your computer exhibits strange problems with the display, the problem may not necessarily be the motherboard.

My SupersPort 286 (Zenith version of the HP LS/12) has been plagued with the intermittent display problem identified in the last issue of the Portable Paper for over a year. I diagnosed this to be an oxidation of the pins on the multi-pin connector which connects the LCD to the power supply. Replacing the existing connector with one containing gold plated contacts would have permanently corrected the problem. I took my machine to a local repair center to check out the motherboard and see if it could also have contributed to the problems I've been experiencing with the display. The repair center said that it would cost me \$500.00 to replace the LCD. No other alternatives were presented. This made me furious, and I quickly retrieved my SuperSport without having it repaired. How could they have missed such an obvious problem?

My advice to users of the LS/12 or SuperSport 286 who experience this problem is to go ahead and take advantage of the extended motherboard warranty offer from HP and Zenith. If the service center states that a new LCD is required, take the time to have them actually show you why. If they can't, try asking for a special warranty on the repair. Otherwise, you may be spending \$500.00 for an \$85.00 problem, and not really obtaining any permanent cure.

IN CLOSING

I'll admit that this month was a cliff-hanger. There's hope, though, that a solution will be available for the HP-150 and portables using the WorldPort 2496 fax/modem, as well as the utilities we've been developing. There's even more hope that you'll have greater success in repairing your LS/12 or SS286 than I did. In the meantime, I'll keep chasing the goose.

[David is a service engineer for computer power systems at KW Control Systems, of Middletown, New York, and a long-time contributor to *The Portable Paper*.]

Speed up your Portable Plus

At least 60% faster with our low-cost "FastPlus" upgrade!

By installing a faster processor and increasing the clock speed of your Portable Plus, you can run Lotus 1-2-3 and other applications at least 60% faster than before.

The upgrade is straightforward, but requires skill and experience working inside a Portable Plus.

If you want to try it yourself, see our instructions in *The Portable Paper* Vol. 3, No. 1, pp. 12-14.

If you want our trained technicians to do it for you, call to schedule an appointment, then send us your Portable Plus and \$250.

(This covers the cost of desoldering the Harris 80C86 processor and replacing it with the faster NEC V30, increasing the clock speed from 5.33 MHz to 8 MHz, and

returning your computer to you via UPS surface. If you prefer overnight return shipping, add \$35.)

In most cases, we'll perform the upgrade and ship your computer back the same day we receive it. In all cases, we guarantee our work for 60 days.

Please note: This upgrade will void your HP warranty, and HP will be under no obligation to service your Portable Plus in the future. However, we will continue to service upgraded machines, and HP repair centers may, in fact, do the same.

This "FastPlus" upgrade will make your Portable Plus more than twice as fast as the original IBM PC—that's even faster than the HP Portable Vectra!

To save time running your spreadsheets, editing your documents, loading programs, saving files, and almost anything else you use a computer for, order the "FastPlus" upgrade today. You'll appreciate the difference it makes!

"FastPlus" upgrade for Portable Plus \$199

PRODUCT NO. FA199

(Be sure to call first to schedule an appointment.)

Overnight return shipping . . \$35.

(Letters continued from page 5.)

P+ uninteresting, but which one comes to perceive and experience as being both illuminating and entertaining.

This has been my experience with the Hewlett-Packard Portable Plus computer, which I formerly viewed with disdain and disfavor (in my previous Luddite-like mode of thinking), but for which I now entertain only the highest regard.

I'm now a bona fide fan of the Portable Plus.

Glen Frank
507 N. Main
Fairfield, IA 52556

[Glen is a board game author, and Copy Editor for *The Portable Paper* ...]

110 **P+** Destructive Backspace in Memomaker; Printer Default; Index Program

I thoroughly enjoyed meeting you and your able staff in Fairfield in July when I traded in my 110 for a Plus. It is a great machine. I can read the screen easily and now have access to a lot of new programs.

There are only two minor glitches. I

no longer have a destructive backspace in Memomaker and I must select the HP-type Printer (the default is Alt-type Printer in spite of what the manual says). My ThinkJet printed very sluggishly until I realized what was happening. Can this be fixed?

The box of 10 disks finally arrived today and I am able to send you the enclosed disk, and catalog from a small software company here in Fort Myers (Software From Ben Cunliff, 4839 Palm Beach Blvd. Fort Myers, FL 33905). All programs are freeware or shareware and are very inexpensive. The disks are 5 1/4 or 3 1/2 inch. I bought the 5 1/4 size as the 3 1/2 are IBM formatted and couldn't be read by my 9114 disk drive. I transferred the enclosed program from a Compac via HPLink to a FORMIBM disk and then to the Plus.

The program (PROINDEX v1.2) works fine on the Plus. It will index a Memomaker file. The DOC file states it works with Wordstar and many other programs.

Ignore the instructions on the first page of the DOC file. I placed only FILES=10 into the CONFIG.SYS file. (DEVICE=ANSI.SYS caused an error message to flash onto the screen when rebooted).

Place a list of words and phrases into a separate file as instructed, answer a few questions (the defaults are fine) and the program automatically creates a new

index program showing the page numbers of the listed items. (I used my program SR.DOC, created the file INDEX and the new file showed up as SR.IND). It can then be re-edited in Memomaker.

Alexander J. Banach, DDS
4498 Windjammer Lane, 2A
Fort Myers, FL 33919

[The 1988 Subscribers Disk has a Memomaker program (named mm) that makes the Portable Plus destructive backspace key work. Both the HP110 and the Portable Plus have ANSI.SYS built in -- Hal.]

High Density Disks Formatted in a Double Density Drive

110 **P+** **PV** **LS/42** I'd like to share something I recently learned about the various 3.5" disk formats. I read about someone who had trouble getting his system to read high density disks (1.44MB) that had been formatted using a double density (720K) drive. The person solved the problem by covering the second square hole in the disk with tape. Sure enough, this fools the newer systems into thinking the 1.44MB disk is a 720K disk. The older systems never check and assume everything is 720K; consequently, they cannot

read a 1.44MB disk. However, there are more differences between the disks than just the number of holes in the cover. The 1.44MB disks have a thinner layer of magnetic material on their surface. This thinner layer can be irreversibly magnetized if used in a 720K drive. In effect, using a 1.44MB disk in a 720K drive permanently ruins them for use in a 1.44MB drive. Even covering the extra hole in the disk doesn't increase the magnetic flux in a 1.44MB drive, so it may not consistently write to a 1.44MB disk which has previously been used in a 720K drive. For best results, use only 720K (double sided, double density) disks with the 9114 drives. I have used 1.44MB disks in my 9114B, and have lost data transferring back and forth between my HP system and a MAC IICI which recognizes 1.44MB disks in DOS format.

I hope my ramblings are useful. I am VERY pleased with my Portable Plus which I recently upgraded from an HP110. I'm rereading many of my back issues of *The Portable Paper* because they have much more relevance now. Thanks for *The Portable Paper INDEX*; it certainly makes finding items by topic easier. Thanks again for a great paper.

Bill Pinnick
Chem-micro-Metrics
1689 Scarborough Road
Greenville, NC 27858

Portable Plus Graphics

I am an avid fan of the Portable Plus and a regular customer for Personalized

Software. Your staff receives regular phone calls from me. In order to save myself a large phone bill, I'm now using Easyplex on CompuServe. Right now I need help. CompuServe's Financial Services provides a feature entitled ND which I would like to use. In fact it is the only feature that contains a concise summary of exactly the information I am looking for in a stock. Unfortunately the graphics will not run on the Portable Plus (I'm using Term Plus for communicating if that makes a difference). They say my computer must use either Run-th Encoded (RLE) graphics or North American Presentation Level Protocol Syntax (NAPLPS) graphics.

I queried the CompuServe Feedback Dept. and left a note on the HP Bulletin Board. I received answers from both, plus a note I found in the "What's New" column. I do not pretend to know anything about computer hardware or software. Therefore, I don't understand the guidance these kind people have taken the time to offer me. I received the following reply from Dale W., Customer Service Representative from CompuServe:

"To view CompuServe's graphics online, you must be using one of our software programs which is designed to run on your particular system. We offer such programs for Commodore, Apple, Mac-Intosh and IBM-based systems. However, only the MacIntosh and IBM-based programs can support our highest resolution graphics called GIF (Graphics Interchange Format).

"However, if you wish to view the

graphics images offline after downloading them, there are a number of utilities in our Graphics Support Forum ('GO PICS'). In the Encoders/Decoders Data Library you can see if there is a GIF graphics interpreter program available for use on your system.

"The introduction to Graphics area (GO PIC-1) can also answer many of the questions that you might have regarding graphics.

"As of September 6, CompuServe has released a new specification for the Graphics Interchange Format. GIF is a format for the storage of graphic images, independent of computer type. Download files GIF89A.DOC and GIF89A.ARC from the Graphics Support Forum's 'Miscellaneous Utility and Code' Library (14). For the newest decoders to view GIF graphics, monitor the forum announcements for program availability."

Thank you very much for your time and consideration,

Bill Ernst
Saudi Arabian Airlines
Cost Center 942
P.O. Box 167
Jedd, Saudi Arabia

[Hopefully other readers will respond. One possible solution is to import the file into WordPerfect 5.0 on the Portable Plus. WordPerfect can read and display most graphic formats - Hal.]

HP110/HP110+ USER GROUPS

Tues 6:30, US route One, Yarmouth, ME 04096, 846-5497. **North Carolina**, Charlotte and Surrounding Area, John Jacob, 704-334-3468. **Texas**, Houston, Thomas R. Page D: 713-759-4259 E: 713-528-7138. **Washington**, Eastern Washington, Northern Idaho, Western Montana, and possibly Western Washington, Bob Sandberg, 509-466-4999. **Eastern Washington**, Stephen S. Warner, D: 509-534-1588, E: 509-535-3322. **Western Washington**, Portable Plus, 150 and Vectra users meet first Thurs 7-9 pm, HP sales office, Bellevue, Pete Ross, 206-342-8875. **Portable**, 40 & 50 Series: 7-9pm second Wed., U.Wash. computer center, Seattle, Bob Moore, 206-543-7879. **Washington D.C.**, Greater Washington D.C. area, 8:00 pm, Third Monday of each month, Ballston Tower #1 800 N. Quincy St., Room 519. Call to confirm and say Hi. William F. Cross, D: 202-696-4112, E: 703-845-9508. **Australia**, 8 Avoca St. S. Yarra, Victoria, Australia, Nigel S. Ball. 03-267-8344. **Central America**, I would be happy to form a users group, either Spanish or English, Apartado Postal 1587, Tegucigalpa, Honduras. **England**, HP Computer Users Association LTD, Cunningham House, Bessborough Road, Harrow, HA1 3DX, United Kingdom, 01-423-3313. **Japan**, I would like to help start a users' group. Michael Lazarin, 26-26-502 Moto Ujina; Minami-ku, Hiroshima 734. **Netherlands**, Mr. R.M. Franquiner, Menthensbergseweg 13, NL-6816 PR, Arnhem, The Netherlands. **Spain**, Club de usuarios HP 110, Pont Reyes S.A., A la atención de D. Enrique Serra, Ronda Universidad, 15, 08007, Espana. **Sweden**, Stockholm, first Thurs each month 6:30 pm, call to confirm. Jens Pettersson, 08-713-1710. Telex 149 70 gentel S.

WordPerfect 5.0 (and 4.2) for

You don't need an IBM PC to run the world's best-selling word processor. Now you can use industry-standard WordPerfect on your HP150 or Portable Plus! P.S. We even have a Portable Plus version that's partly on ROM!

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WordPerfect not only performs all the usual functions you would expect from a full-featured word processor, such as:

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- right justification
- undeleting of deleted text
- and more,

but it also offers a carload of advanced features—such as:

- Text in Columns
- Footnotes, Tables of Contents, and Indexes
- 115,000-word Speller
- Thesaurus
- Mail-Merging
- And built-in Math functions for creating a mini spreadsheet anywhere in your document.

Best of all, **you can run the complete WordPerfect on your Portable Plus or HP150 Touchscreen.** (Depending on the kind of Portable Plus or HP150 you have, you can use either WordPerfect 4.2 or the new 5.0.)

To learn more about the world's most advanced word processor—and how to use it on your HP computer—read the information on these two pages. Better still, try our Portable Plus or HP150 version of WordPerfect for yourself *at our risk*.

Order WordPerfect today, and put it through its paces.

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If, within 60 days, you feel that WordPerfect isn't everything we say it is—or if you are dissatisfied with WordPerfect *for any other reason*—simply return it and we'll send you a full refund.

	Product Number	Retail Price	Subscriber Price
WordPerfect 5.0 for the Portable Plus (includes PlusPerfect)	WD17NS	\$645	\$395
PlusPerfect	WD14NS	\$150	\$129
WordPerfect 5.0 for the Portable Plus, with ROM Backup (includes WordPerfect, PlusPerfect, Backup ROMs)	WD11NK	\$940	\$595
WordPerfect ROM Backup*	WD12NR	\$295	\$295
WordPerfect 4.2 for the Portable Plus	WD14NS	\$435	\$339
WordPerfect 5.0 for the HP150	WD13NS	\$495	\$395
WordPerfect 4.2 single-sided for HP150	WD12NS	\$435	\$339
WordPerfect 4.2 double-sided for the HP150	WD11NS	\$435	\$339

WordPerfect Upgrade Kit (Upgrades Personalized Software Portable Plus or HP150 version 4.2 to 5.0)
 Call us for pricing and other details.

* Requires proof of purchase of WordPerfect 5.0 and PlusPerfect, and written confirmation that you will honor the WordPerfect license agreement.

Here's What You Get

Here's what you receive when you order the Portable Plus or HP150 version of WordPerfect (published exclusively by us). Note: See box below to determine whether you should buy WordPerfect 4.2 or 5.0.

1. Complete WordPerfect software and Users Manual

The entire IBM PC version of WordPerfect (on 3½" disks) and the standard WordPerfect users manual.

2. Special utility programs

Our versions of WordPerfect 4.2 and 5.0 both come with an IBM PC emulator program that allows WordPerfect to run on your HP computer. (The Portable Plus version of this emulator is called PlusPerfect.) Our disks also include "batch" files that allow you to run WordPerfect automatically.

3. (Optional) ROM Backup for Portable Plus

6 ROM chips containing PlusPerfect and a significant portion of WordPerfect 5.0. (You can use 4 or 6 of these ROMs, depending on the amount of space available in your ROM drawer.)

Although you'll still need to store a 300K WordPerfect file on your disk and set main memory to 376K, this ROM Backup saves you up to 384K of RAM.

To purchase the ROM Backup, you must already own (or order) WordPerfect 5.0 and PlusPerfect on disk.

4. Instruction booklet

In addition to the comprehensive WordPerfect users manual, we supply our own instruction booklet. It tells you, step-by-step, how to get started, what to ignore in the users manual, and how to use WordPerfect on your HP computer.

5. Keyboard template

We also include a convenient 4-color keyboard template that we've designed specifically for the unique keyboard layout of your Portable Plus or HP150. The template shows you, at a glance, which keys to press to execute each of WordPerfect's functions.

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See order form for details.

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the Portable Plus and HP150

Frequently Asked Questions

(If you have additional questions, don't hesitate to call us!)

Q. Are the Portable Plus and HP150 versions of WordPerfect identical to the IBM PC version?

A. WordPerfect 5.0 and 4.2 are identical on all three machines, except:

- the on-line tutorial does not run on the Portable Plus or HP150. (However, the "learning" section of the users manual covers the same material as the tutorial.)
- the "Preview Document" feature (which shows special fonts and graphics as they will appear on printing) functions in a limited way.
- Some extra, unessential utilities that come with WordPerfect do not run on the HP150 or Portable Plus.

With both 5.0 and 4.2, if you already know how to use WordPerfect on an IBM PC, you can use the HP version right out of the box.

Q. Can I transfer WordPerfect files back and forth between different versions of WordPerfect and between my HP computer and an IBM PC?

A. Yes to both.

WordPerfect 5.0 has a built-in transfer utility that makes sharing files between versions of 4.2 and 5.0 easy.

Moreover, WordPerfect produces identical files on an IBM PC, Portable Plus, and HP150. The only difficulty that may arise in transferring files between these machines is that HP and IBM computers use different formats. If you don't already have the ability to accomplish the transfer, you can either use our Disk Conversion Service or a variety of hardware or software solutions, depending on your system. For details, see "File Transfer Made Easy," in our product listings in this issue.

Q. Where can I get assistance in using WordPerfect on my HP150 or Portable Plus?

A. If you have a problem related to the HP150 or Portable Plus—or if you're not sure where the problem lies—call us. If you have a question about how to use a WordPerfect feature, call WordPerfect Corporation. They are famous for the calibre of their customer support, and you can call them toll-free.

Q. Will the HP version of WordPerfect work with my printer?

A. Our instruction booklet tells you how to run WordPerfect with all printers that work with our Portable Plus or HP150, including serial, parallel (Centronix), HP-IB, and HP-IL.

WordPerfect in Brief

Here are some of the advanced features that have made WordPerfect the world's number-one selling word processor. (These features are common to WordPerfect 4.2 and 5.0).

Speller

WordPerfect's built-in spell-checker is fast, thorough, and easy to use. The main dictionary contains 115,000 words, and you can add words of your own to one or more auxiliary dictionaries. The Speller also counts the number of words in a document or in any block of text.

File merging and mail merging

With WordPerfect, it's easy to produce personalized form letters (mail merging), and to assemble reports, proposals, and contracts from pre-written components.

Thesaurus

WordPerfect's Thesaurus helps you find the right word when you need it. Synonyms are grouped by noun, verb, and adjective, and at the touch of a key, you can look at second and third levels of alternatives.

Columns

WordPerfect's Columns feature is ideal for writing a newsletter, glossary, script, or any text that requires columnar format. Up to 24 columns can be formatted in either newspaper style (snaking) or parallel style (side-by-side). The columns appear on the screen exactly as they will print on the page.

Footnotes and endnotes

WordPerfect streamlines the task of creating and editing footnotes and endnotes. Just enter information at the appropriate spot, and WordPerfect takes care of numbering and formatting—including allowing just the right amount of space at the bottom of the page. If you later add or delete a note, WordPerfect will automatically renumber the others.

Table of contents

Mark portions of your text, specify a format, and WordPerfect will automatically generate a Table of Contents and an Index for your document.

Math

WordPerfect lets you use 4-function math for calculations across columns and for subtotals, totals, and grand totals down columns, anywhere in your document. Whenever you change a number, WordPerfect updates the totals. It's like having a mini spreadsheet at your fingertips—without leaving WordPerfect.

Sort

You can sort lines, paragraphs—even external database records—from within WordPerfect. You can apply logical rules to the sort: It's easy, for example, to generate an alphabetized list of all customers in California who have purchased more than \$100 worth of merchandise within the last 6 months.

WordPerfect's Newest Version

Here are the main features that have been added to WordPerfect in upgrading it from Version 4.2 to 5.0:

Fonts and printing

WordPerfect 5.0 lets you set margins, tabs, etc. using inches, centimeters, and points. Fonts may be freely mixed and changed without affecting margins, tabs, or column definitions.

Integrated text and graphics

WordPerfect 5.0 lets you insert graphic images from most graphics programs directly into your text. You can enlarge, reduce, move, and rotate most images to your specifications.

Styles

You can combine text and codes to create a specific "style," or format, that you can then use over and over again (for chapter headings, subheadings, etc.).

Document compare

WordPerfect 5.0 will compare the on-screen document to an existing document on disk. Text that has been added will be "red-lined" (marked with a vertical bar in the left margin), and text that has been deleted will be shown in "strike-out."

Keyboard redefinition and macros

WordPerfect 5.0 lets you store any sequence of keystrokes so that those keystrokes will be executed upon the press of a single key. This "macro" feature allows easy entry of repeated text and commands. One way to use macros is to change the key assignments for WordPerfect's features. There is no limit to the number of different keyboard layouts you can thus define.

WordPerfect 4.2 or 5.0—Which Should You Buy?

To determine which version of WordPerfect to buy—4.2 or the new 5.0—follow these steps:

Step 1. Assess your needs.

Please see the column, "WordPerfect's Newest Version" (at top right) to learn about the features that are unique to Version 5.0. If you need these features, then 5.0 is the version for you, provided your machine can run it (see below).

Step 2. Check your memory size.

Portable Plus:

To comfortably run Version 5.0, you'll need a

machine with at least 896K of RAM (e.g., a 512K Portable Plus with a 384K RAM drawer, or a 128K Portable Plus with two 384K RAM drawers).

With an 896K machine and our ROM version, you can run WordPerfect without an HP9114 disk drive. Otherwise, with an 896K Portable Plus, you need to load WordPerfect from the HP9114. Once you load WordPerfect, you no longer need the HP9114 to run WordPerfect.

To comfortably run Version 4.2, you'll need a machine with 640K of RAM.

You can run either version of WordPerfect with just 512K of RAM if you're willing to do a lot of disk access from your HP9114.

Note: You might consider purchasing a 1 Megabyte RAM drawer for your Portable Plus. This would let you bring the superb WordPerfect speller module wherever you go without having to load it in from an external disk drive. And with a megabyte of extra RAM, you'd have lots of room left over for text files.

HP150:

To run Version 5.0, you'll need 512K of memory and a double-sided disk drive.

To run Version 4.2, you'll need 256K of internal memory and either a double-sided or single-sided disk drive. (Note: If your HP150 uses single-sided disks, you'll also need a hard disk drive to run Version 4.2. Neither version of WordPerfect will run on a dual-floppy single-

sided HP150 system.)

Our recommendations:

In general: Choose WordPerfect 4.2 if: (a) your machine demands it, or (b) you're already using 4.2 on other machines and don't intend to upgrade, or (c) you wish to save some money and don't need the new features in WordPerfect 5.0.

On the other hand, if you want those new features and your machine can handle it, WordPerfect 5.0 is the one you should get. If you use a Portable Plus, you'll tie up the least amount of RAM if you purchase our ROM Backup version of WordPerfect 5.0.

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 - FormatPlus (integrated word processing command center)
 - FilePlus file manager • Shelp (pop-up notepad, calculator, and keyboard macros)
 - As-Easy-As (Lotus 2.0 work-alike) • GamesPlus (11 great games on one disk)

Entire system - only \$1295!

PRODUCT NO. BU11UX

PORTABLE PLUS ROM SPECIAL

- Like-new 512K Portable Plus
- 128K RAM drawer • ROM drawer
- 6 great programs on ROM Backup (disk and ROM):
 - The Editor II
 - Webster's Spelling Checker
 - FormatPlus
 - FilePlus
 - Shelp
 - As-Easy-As (Lotus 2.0 work-alike)
- GamesPlus on disk

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- Like-new 512K Portable Plus
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Entire system - only \$1395!

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Save an additional \$550! Substitute a used 128K Portable Plus configured with a 128K RAM drawer (256K total).

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Swiss/French Portable Plus (512K) PROD. NO. PP34UC \$995
Swedish Portable Plus (512K) PROD. NO. PP40UC \$995
English Portable Plus (512K) PROD. NO. PP31UC \$995
Italian Portable Plus (512K) PROD. NO. PP38UC \$995
Italian localization ROM
German localization ROM
French localization ROM